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Absolute Beginner's Guide to the Mac ____ 22

By Alan Stafford

The Mac is enjoying a resurgence, and people who are new to the Mac are at the forefront of the buying tide. It's a happy looking thing, but how do you use it? This will show you the ropes, starting with — and sticking to — the basics. If you already know the Mac, use it as a refresher course.

Using Your Mac in a PC World ____ 26

By Jeff Battersby

You toil hour after hour, day after day, year after year in a dank, dark PC world. They don't know your Mac; they don't know what it can do. What's a Mac lover to do? Here are strategies for working with the unwashed PC masses.



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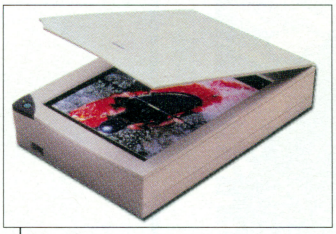
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- 4½ apples — Media Cleaner Pro 3
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- 3½ apples — PageMill 3.0
- 4½ apples — Personal Backup Version 1.2.3
- 4 apples — Redneck Publisher
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Your Office: Hardware

- 3 apples — Kodak DC220
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Entertainment

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- 4 apples — Making More Music
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- 5 apples — You Don't Know Jack: The Ride

Your Family

- 4½ apples — Dr. Suess Preschool
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- 4 apples — Rockett's Adventure Maker
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Our Rating System

- 5 apples — **Mac-nificent.** You gotta get it. No flaws.
- 4 apples — **Excellent.** Recommended even if it has a minor flaw or two.
- 3 apples — **Average.** Despite problems, still a worthwhile product.
- 2 apples — **Below Average.** Has serious flaws that limit its usefulness or fun.
- 1 apple — **Poor.** Avoid this product at all costs.

Indicates iMac compatibility

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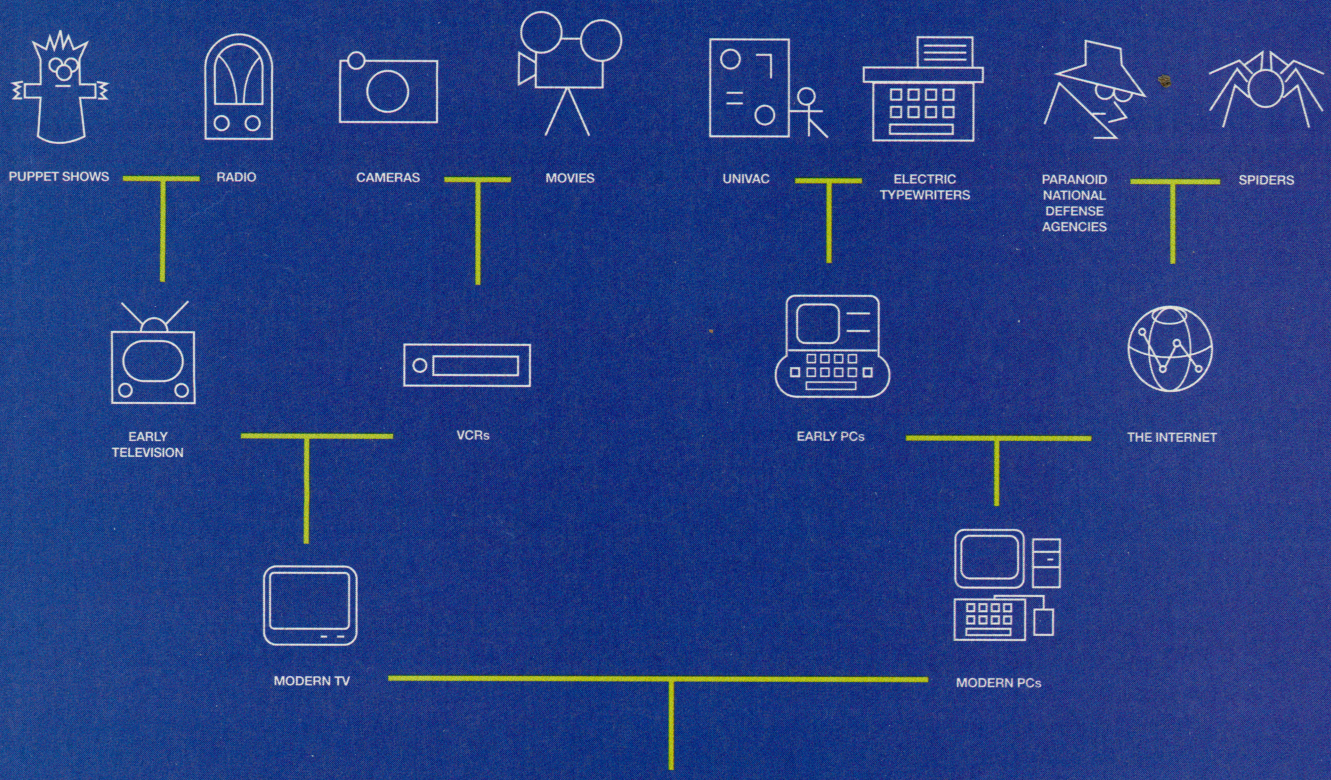
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from the chief [Editorial]

X Marks the Spot

Let me throw out a not-so-original idea: Apple should license Mac OS X for use on Intel hardware.

Apple has toyed with licensing many times in the past. It actually tried it with Power Computing, Umax, Motorola, et al., before it ran the supertanker aground. As Steve Jobs said then, the model Apple had put forth was destined to spill Apple blood all over the harbor.

The problem was that Apple licensed the Mac OS but required it to be used on Apple-approved hardware designs, which Apple was often slow in approving. The cloners complained that Apple tried to contain any innovation so that the clones wouldn't outengineer Apple, thereby cannibalizing its sales. Apple said that the clones didn't gain the Mac any market share, that they fed off existing Apple customers, and that Apple put restraints on the clones to ensure good quality products.



However, Apple has a new opportunity with Mac OS X. The operating system that Apple bought from NeXT runs on a Mach kernel (a Unix platform that's in between the operating system and the hardware it runs on). The Mach kernel can run on Intel hardware.

If Mac OS X were to run on Intel hardware, Apple could sell OS X as an original equipment manufacturer (OEM) product. Most manufacturers would only offer it as an option, but some companies might bundle it as a bonus OS. Tens, perhaps hundreds, of companies, all selling the Mac OS to millions of companies and consumers. All Apple has to do is supply them with software.

The DOS shell can boot up different operating systems off of the same hard drive, as long as it's partitioned; you just choose one when you start up. You can run Windows 95, Windows 98, or Windows NT, all on the same machine. It might be possible to configure the Mac OS to work in the same way, so that a user who is comfortable with Windows wouldn't have to choose; he could try out the Mac OS on his Windows machine. The Be operating system, which started life running on PowerPCs, now runs on either Macs or PCs. If tiny little Be could do it, surely Apple could do it.

The OEMs shouldn't see the Mac OS as confusing, because it'd be an option, not a replacement. I think they'd try it because they know Apple's own hardware isn't competition to them. Apple doesn't sell to the same customers, and Apple's hardware is more expensive. Those companies would also be unfettered by any hardware-licensing restraints, which buried cloning.

Apple shouldn't worry that its hardware sales will be cannibalized — after all, it continues to shout that the G3 "toasts" the Pentium, and as long as it enjoys a speed edge, it can justify charging a premium. The tough thing is, if Apple *doesn't* have a speed edge over Intel (as some have alleged), then it has no business charging more for its machines, except for that small margin that a name brand enjoys. That may become a problem if PowerPC development slows due to the crumbling of the IBM/Motorola/Apple alliance. However, if that comes to pass, Apple will need another processor anyway.

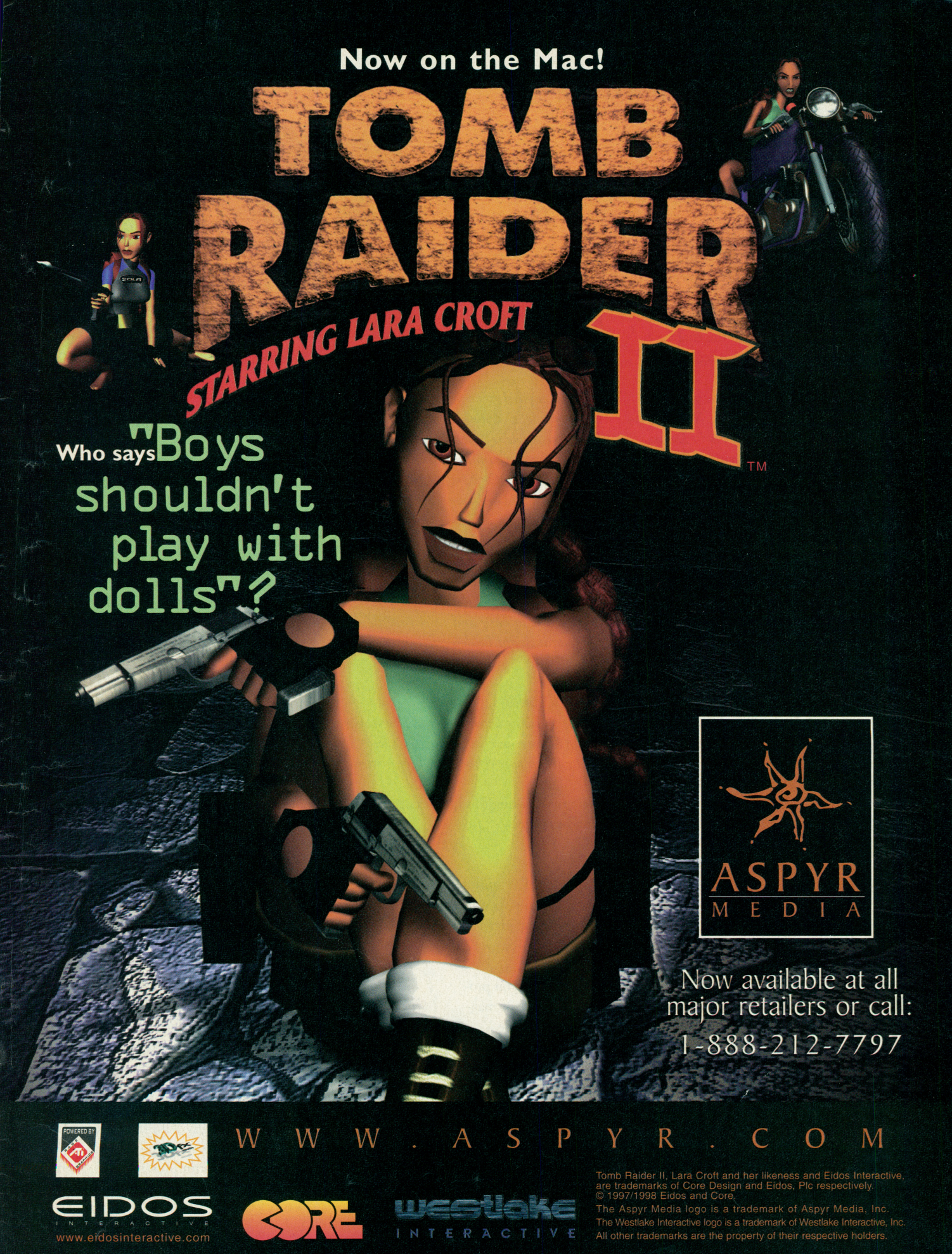
Apple has been moving very slowly toward embracing Wintel hardware standards. USB is the most visible move — the iMac — but we've also heard rumors about future Macs using AGP (Advanced Graphics Processing) as its video interface. Instead of making Mac OS X conform to Mac-only hardware standards that isolate Apple and its users, now's the time to implement support for such hardware in the Mac OS, but on both platforms.

Software and hardware developers should love this. If OS X is supposed to be so much easier to program for and to adapt legacy Mac applications to, then it stands to reason that, because of the Mach kernel, it'd be just as easy to write or adapt them to run on PCs. The prospect of accessing a huge market while running on top of the user-friendly Mac OS must be appealing to them.

So, what do you think? Would you care if the Mac OS ran on a Gateway 2000 box?

Alan Stafford

Alan Stafford, *Editor in chief*
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Write On [Your Letters]

Starry, Starry Night

Never did I question if *MacHome* was worth the money, as well as the time to read it. I've been a subscriber ever since I upgraded from my good old Commodore 64 and 128 to Mac. But after you included the CD-ROM with all the trial versions and utilities, the value received is even better.

But now has come the time where I have to thank you even more: You included a trial version of *Starry Night Deluxe*, an astronomy program that is really outstanding. I have found — in my old age — a new world to explore. After looking at the trial version I was very impressed. I remembered an old program for the Commodore 128 about the same subject, but it was so slow that it was too much of a pain to use. It had panels telling me to "Be patient — it took billions of years to create this Universe!"

I ordered *Starry Night Deluxe*, and I have spent much of my free time with it. Thanks again for bringing this program to my attention.

—Friedemann Badow

Just Boot Me

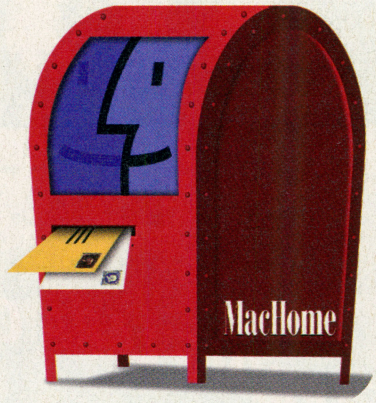
Do you want to boot from your Imation SuperDisk, your Newer Technology uFloppy, or your USB Zip drive? Chances are you won't be able to — or from any other USB-based drive, for that matter.

Representatives from Newer and Imation have told our user group (The Northwest of Us) that their products aren't bootable, nor is it likely anyone else's will be.

The reason for this, the Newer rep told me, is not a shortcoming of the USB technology. It appears to be a proprietary "feature" Apple has put into its implementation of it. He explained it to me, but it was too technical for me to retain. One thing that came through loud and clear, though, was that if you want to boot from something other than your hard drive, your only option is the CD, he said. This bothers me, and I wonder why no one is writing about it.

Would someone please investigate and clarify this situation?

—Matt Gilbert



✍ *Apple says yes, it's true, you can't boot up from a USB drive — not yet anyway. Here's the Apple rep's response: "Yes, it is true. Today one cannot boot their Macintosh (or PC) from a USB mass-storage device. This is not a limitation of USB, but rather, a feature that would need to be integrated into many parts of the Macintosh: Mac OS, Open Firmware, Boot ROM, etc. I agree that booting from a USB device would be a nice feature to have and we're investigating how it might be delivered in the future."*

Where's Steve?

✍ *The following letters were sent in response to our Where's Steve Jobs? contest. Contest results are on page 64. We loved your letters!*

Weren't we asking this question three or four years ago?

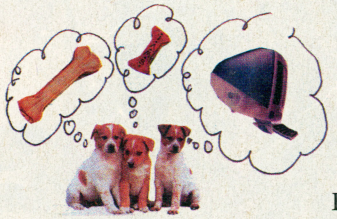
—David Graham

Go Jobster! I'm bummed that I had to cut the picture out, because the article on the other side was great!

—Stephen Evans

I'd like to say you provide an excellent magazine. I'm a huge *X-Files* fan, and I collect photos, posters, and merchandise. Thanks to *MacHome* for making this contest available to fans. And thanks to Fox Interactive for a great game!

—Jennifer Kerstner



Elizabeth Ulicni sent in this cool X-Files entry.

I've been reading your fine publication since 1995, when I purchased my $2,700 Performa 6300. I was one of the poor fools eagerly anticipating the "next generation" Copland OS. Those were the days! Keep up the good work.

—Steven Smith

Okay, people, this was pretty *X-Files*-ish!

—Susanne Ramsey

Mr. Jobs may be touchy, but he's bringing Apple to the top.

—George Bonjokian

It's got to be the vest guy! [*Nope; sorry.*] Hey guys and gals, keep up the great work. I love your magazine.

—Bill Morris

If that is not the Jobster in the dark vest, someone is not "Think(ing) Different"!

—Donna Stearman

I'm ashamed of myself. Your puzzle should be tough, but I'm such a hopeless Mac news addict that I've seen the speech Steve gave that day, so I actually know what he was wearing! Therefore, even though he's facing away from the camera, I can single him out with ease. [*Er, nope. They must shop at the same place.*]

—Dylan Malone

Congrats for such a great job that you guys at *MacHome* are doing! I really like Anne Feld's Entertainment section, among others. Regarding the giveaway, I'm pretty sure Jobs is the guy with the dark vest and white shirt, toward the camera, right below our omnipresent Apple logo. Anyway, I think this a cool opportunity

to write to you guys and be part of the little game.

—*Alejandro Padilla*

I found him! [*Sure did.*]

—*Bill Waganfeald*

There he is! [*Yup!* You *are the Grand Prize Winner!*]

—*Jun Xu*

What's Missing From This DVD?

Today I ordered a PowerBook G3/300MHz (but I didn't get the DVD model). They tell me it comes with Mac OS 8.1, not 8.5. Does this make any sense — to pay more than $4,000 for a new computer and then have to shell out more money for the latest operating system?

I thought maybe you could talk to Steve Jobs (I would, but I can't find his e-mail address), and ask him why we are getting second best. The least they could do is mail the new OS in a separate package to all who buy new computers.

Thanks for a wonderful magazine too. I have tried all the others and let the subscription run out on all of them except for my favorite — *MacHome*. It is by far is the best!

—*Deb Wilson*

✍ *You can upgrade to Mac OS 8.5 via Apple's Up-to-Date program; You pay $20 for shipping and handling. Steve's e-mail: sjobs@apple.com. We hear he gets a thousand messages a day, though, so good luck getting through.*

Compared to What?

I enjoy your reviews of new software and upgrades tremendously, but I have a suggestion: I believe it would help your readers and/or consumers of these products if you placed a comparison or list other products that either do the same as what you reviewed and their rating (if possible) at the end of the article. This could help make your readers (including myself) more informed and aware of other software developers that make competing products for consideration.

For example, suppose you reviewed the game *Myth* and you gave it a five-apple rating (which *MacHome* did). At the end of the article you could list other games like this one to consider and how you rated them (compared to this one). This could help us make a more-informed purchase of a product.

—*Mark Darren Walker*

✍ *Unfortunately, in print we have limited space. However, we do offer searching capabilities for competing products in our online database of reviews (www.machome.com/search rev.html); those reviews come from the magazine.*

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By John Poultney

QuickTime Going Prime Time

Whatever it is you like to watch — and we don't want to know — Apple is about to make it easier to watch it over the Web. The company is on the verge of announcing a new version of its venerable QuickTime multimedia architecture that will include streaming capabilities. Such a feature would make QuickTime 3.5, expected to be announced at January's Macworld Expo in San Francisco, applicable for delivering audio and video content via the Web, much like Real Networks' RealPlayer.



Although QuickTime currently includes some streaming features (see story, page 12), the improvements will make it a much more versatile delivery platform. The update will reportedly support several streaming protocols including RTSP (Real Time Streaming Protocol) and RTP (Real Time Transfer Protocol), putting it on a par with RealPlayer, the Web's most widespread method of distributing streaming media.

The capabilities will be added to QuickTime through a set of extensions called QuickTime Streaming, or QTS. While Apple does not comment on unreleased products, the company publicly demonstrated early versions of this technology last May at its World Wide Developer's Conference.

"Right now, we have to convert to Real's format when we work on streaming media projects," said one developer familiar with the technology. "I'd much rather stay in the QuickTime format if possible."

Software capable of streaming playback is only half of the equation. Apple is also working on server technology and is expected to release a very basic server shortly after QuickTime 3.5's release. Some unnamed third parties are reportedly developing alternate server models that will better enable wide-ranging multicasting and other advanced features.

X is for MIDI

Five years in the making, a brand-new, highly stylized MIDI sequencing package called xX is out, and it's by the author of Arboretum Software's celebrated MetaSynth audio program. xX, in fact, can act as a special companion to MetaSynth, in that you can save any MIDI composition as a PICT file and import it into MetaSynth, or you can play MetaSynth files (or other images) as MIDI files.

Fancy business aside, you could always use xX as a regular MIDI sequencer, entering note data via the computer keyboard and mouse or with a MIDI instrument. xX may be configured to accept only certain notes in a scale, to minimize accidental "avant-garde" moments in modern compositions.

Arboretum Systems, 800-700-7390

128 Bits of Glory

ATI Technologies is out of the chute at Macworld Expo with three brand-spankin' new PCI graphics cards based on a ragin' new 128-bit graphics chip, appropriately named the Rage 128. This chip, which can process four million triangles per second, supplants the 64-bit Rage Pro used in the company's current XClaim and Nexus graphics cards.

At Macworld, the company is unveiling the $299 Nexus 128, replacing the Nexus GA. Equipped with 32MB of SDRAM, the card supports 2D resolutions of 1920 x 1440 pixels at 32-bit color, 24-bit 3D at the same resolution, or 32-bit 3D at 1920 x 1200 pixels.

Also new is the XClaim VR 128, replacing the Xclaim VR. The card has S-video and composite video in and out, and can capture 640 x 480-pixel video at 30 frames per second in any G3 system. Using 16MB of SDRAM, it supports 1600 x 1200 16-bit 3D resolution (1280 x 1024 3D in 32 bits), or 2D resolution at 1600 x 1200. ATI is also bundling the XClaim TV add-on module (reviewed in the October 1998 *MacHome*), all for the low, low price of $229.

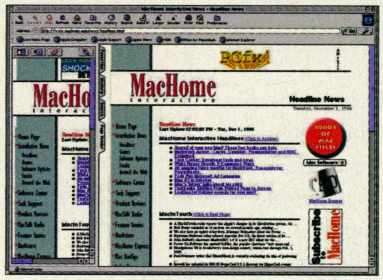
For more basic needs, ATI offers the $199 Rage Orion, with the same specifications as the VR 128, minus the video I/O options. ATI says this is a good gaming option, and while it will bundle "some games" with this card, it isn't saying which ones just yet.

ATI says the Rage 128 chip is a graphics powerhouse, given such bitchin' features as 32-bit rendering, an 8-bit stencil buffer (used in cutaway views and fast scene panning), and single-pass multitexturing. *Banzai!*

ATI Technologies, 905-882-2600

Discovered Country: IE 4.5

Microsoft says it has a few tricks up its sleeve for Internet Explorer, which will get a version bump to 4.5 at Macworld Expo. They're calling this one, "the Browser that Saves You Time." How so? Well, there are quite a few tasks that are now automated, or at least semiautomated. For example, a Page Holder feature lets you save a page in a holding pen, and jump back to the original page with one click. And the Form AutoFill and AutoComplete functions take your profile data (personal identifying data stored in your Preferences folder), and automatically pours it into Web forms as your needs dictate. To save you time wasted reprinting pages that don't print out correctly, 4.5 includes a Print Preview feature that purports to show you what a page will really look like if you print it; this will also let users suppress headers, footers, backgrounds, or images when printing. Microsoft says it will also scale printing onto a standard sheet of paper, without clipping images or text.



IE 4.5 includes a direct link to OS 8.5's Sherlock search function, so you don't have to switch to the Finder first. And if you drag a graphic from a page to the desktop, it's automatically saved as GIF or JPEG, complete with preview icon. Like its predecessors, this Explorer includes e-mail (from the bundled Outlook Express), newsgroup reader, and contact-management functions.

In an interesting twist on the Cold War/Love Fest (pick one) between Apple and Microsoft, this version will use Apple's Macintosh Runtime for Java (MRJ) as the default Java virtual machine, rather than its own version. Of course, you can do that now, if you set your preferences correctly. But the default, sir, that is the thing.

ixMicro Shifts Gears

Graphics accelerator maker ixMicro recently announced it will no longer manufacturer the graphics chips used in its video cards, instead relying on outside vendors to supply the chips. In the current 3D video card market, that should be seen as a good move, but recent circumstances have given rise to questions about the company's viability, and the company is trying to dispel these doubts.

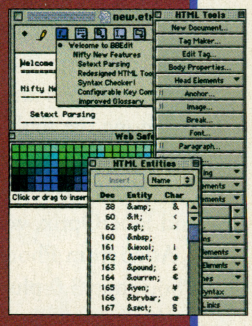
"Obviously, there are some pretty awful rumors about us going out of business," said Susie Capozza, director of marketing at ixMicro. Those rumors were fueled by news of one vendor selling the company's Ultimate Rez card for $79 — substantially less than the card's estimated street price of $499; the speculation was that the company was dumping inventory to satisfy debts. Capozza explained that the vendor's sales agreement specified that the price would only be offered if the card were bundled with another product, such as a system or a monitor. The vendor has since stopped selling the card for that price, and Capozza confirmed that ixMicro is still manufacturing video cards. The company also has laid off employees, but only those who were involved in chip design and manufacturing.

Despite the reorganization, Capozza said ixMicro will introduce new products that use outside vendors' chips at Macworld Expo in early January. "They still will be very unique products for the Mac," she said. "We're still doing Windows products, but not as much. We're leaning more toward the Mac market."

Capozza emphasized that ixMicro is in fine financial shape and that it would continue to focus on its Mac customers. "Things are definitely status quo here," she added.

notably new!

BEdit 5, the text editor extraordinaire that features more context-sensitive HTML tags than you can shake a stick at, is now shipping for $119 from Bare Bones Software. We're talkin' about multiple Undos here, an integrated spell checker, multifile search and replace, and multiplatform file support.



Bare Bones, 781-687-0700

Macromedia's DreamWeaver 2 continues the tradition of delivering big-time Web-development tools. The new version sports pixel-perfect positioning, advanced table-creation functions, and new template types for collaborative work. It's $299.



Macromedia, 800-326-2128

G3 for less: Newer Technology has some newer prices on its G3 upgrade cards, having dropped the prices of both the NuBus and ZIF (Zero Insertion Force) products in its MAXPowr line. The cuts range from $50 all the way to about $450. PowerLogix, meanwhile, is offering rebates of $250 and $125 on the 400MHz and 333-MHz models, respectively, of its PowerForce G3 ZIF cards.

Newer Technology, 316-943-0222
PowerLogix, 888-769-9020

Big Kai Country



Kai's Power Tools (KPT) has long been a favorite of digital artists, with its mind-bending effects for adding that otherworldly Salvador Dali-meets-Roger Dean touch to your projects. Well sir, the code is now dry on KPT 5, a new version that works as a PhotoShop plug-in. This way you can get all those kuh-razy textures, melting landscapes, and what-have-you (like that thing on the right) without having to open another application. Handy? Sure it is.

Among the tools you'll find in this package are ShapeShifter, which creates objects with refracting glass-like images; Orb-It, which converts an image into thousands of 3D spheres; Blurrrr, a set of filters that creates various zoom, spin, and focus effects; and FiberOptix, which lets you create such effects as fur, vines, and even *silly string*.

Aside from Photoshop, the package works with other programs that support the Photoshop 3.0 plug-in architecture, such as MetaCreations' Painter 5.5 illustration package.

KPT 5.0 costs $199; upgrades are $99.

MetaCreations, 800-472-9025

Let's Get Small

Aladdin Systems has been busy rubbing its magic lantern, so to speak, and has conjured up new versions of its mystical Stuffit Deluxe and Spring Cleaning programs.

Stuffit Deluxe, now at version 5.0, now makes compressed files 20% smaller than the previous 4.5, Aladdin said. Hence, a 2.8MB file that would shrink to about 772KB under version 4.5 will only take up about 526KB if compressed with 5.0. It also works better with files from other systems, such as DOS and Windows, as they've updated the file type, creator, and extensions tables.

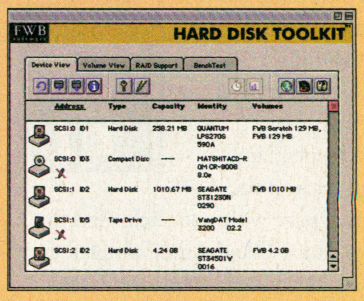
As for Spring Cleaning (lets you clean out unneeded files from your hard disk), Aladdin's added storage folders that let you archive these files if you want. They've also spruced up the font-deletion actions and added a streamlined interface..

Stuffit Deluxe 5.0 costs $80, while Spring Cleaning costs $50.

Aladdin Systems, 800-469-4564

FWB HDT Now Does RAID

FWB Software has added some bang-up new features to Hard Disk ToolKit 3.0, the latest version of its drive-formatting and storage-management utility. HDT 3.0 now lets you set up two or more hard drives as a RAID



(redundant array of inexpensive disk) array, which of course gives you greater volume and often faster performance than you'd get with a single disk. Previously you'd need to use FWB's $299 RAID ToolKit to do this. The software has additional support for working with HFS+, IDE/ATA, and SCSI-3 devices, as well as for creating high-performance scratch partitions for use with Photoshop.

HDT costs $199; upgrades are $50.

FWB Software, 650-780-0466

"DenebaCAD shines – literally – at controlling surface reflections, transparency, lighting effects and other photo-realistic details... DenebaCAD also gives you more ways to handle freeform curves than MiniCAD™ 7 or TurboCAD™ 2D/3D 3.0..."

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Macworld, February '98

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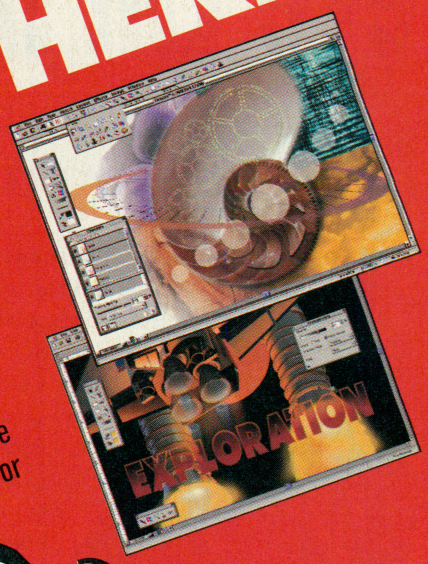
How many graphics programs are on your shelf? Three? Five? A dozen? Or maybe you've just avoided investing in a suite of specialized programs, fearing they will fail to meet your particular graphics needs – and budget.

Introducing Canvas™ 6.

Canvas 6 is a revolutionary new concept in graphics software. A Single Creative Application designed to liberate you from the burden of multiple programs. Now graphic designers, corporate users, and enthusiasts alike can complete any graphics task with a single program.

But integration is only half the story.

Canvas 6's ground-breaking **SpriteLayer™** technology empowers the average graphics user with compositing power previously reserved for experts. Seamless blends of drawings, photographs, and text – including translucency, vignettes, and transparent brush strokes – are now just one click away.



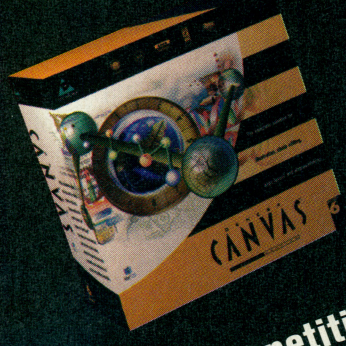


And for the graphics gurus, SpriteLayer technology brings creative capabilities never seen before. Like the ability to use vector art, images, and text (or any combination) as a transparency map for any other object, without limits.* No matter what your vision, Canvas 6 takes you all the way to finished film, the web, and Quark-compliant EPS or PDF.

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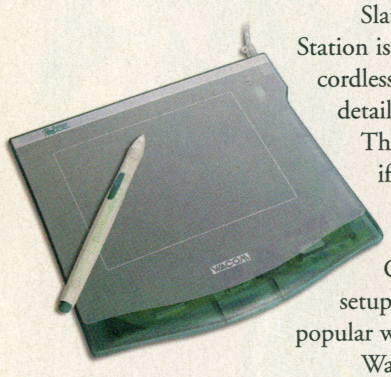
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eye On iMac

By John Poultney

Get Graphic with USB

It had to happen — the promised sweep of the USB craze to the far corners of this earth. And it has, as Wacom and CalComp both announce USB versions of their celebrated graphics tablets.



Slated to ship in early 1999, CalComp's USB Creation Station is a 4-inch-by-5-inch tablet with a cordless mouse and cordless, pressure-sensitive pen for those tasks that demand detail. Neither needs batteries or a power supply.

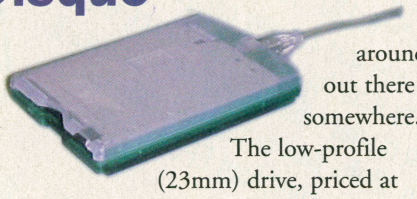
The translucent purple tablet, designed to complement, if not match, the iMac itself, includes design and Internet connectivity software. See, the idea is to use the tablet in your Web-design creations. The USB Creation Station can be used in multiple-monitor setups for those gigantic images, triptychs, and collages so popular with today's young people. All this for a mere $129.

Wacom, meanwhile, announced the USB PenPartner, a $99 unit that will ship in the same time frame. This 4-by-5-inch tablet will feature true bondi-blue transparency, including the cord and pen. It will also include some graphics software, though Wacom's not saying which packages just yet.

CalComp, 800-458-5888.

Ye Olde Floppy Disque

YE Data has a product that's sure to warm the cockles of the heart in those iMac users that yearn for the old days. The old days of floppy disks, that is.



The company's amusingly named FlashBuster-U is a simple, no-frills floppy disk of the old-school variety. No high-capacity rigamarole here; just classic support for the billions and billions of old standby 1.44MB disks floating around out there somewhere.

The low-profile (23mm) drive, priced at $99, is slated to ship to the iMac community sometime in early 1999. This drive may show up under a different name when it finally reaches the market, however, so check with the company.

YE Data, 847-887-7640

CD-RW on the Horizon

If La Cie has anything to say about it, if you make a mistake writing a CD-ROM, the disc needn't end up as a third-rate coaster. The longtime makers of hard drives and other Mac peripherals says it is bringing CD-ReWritable drives to the iMac community in late January. The USB-based device will have 2X write, 2X overwrite and 6X read speeds; La Cie says the drive's relatively low speeds will keep up with the iMac's USB speed handily. Though pricing is not yet finalized, but La Cie said it expects the drive, called the USB 226 CRW, should cost roughly $400.

La Cie, 800-999-0143

Scan Me!

Microtek has a mighty cheap 300 dpi scanner with a catchy name for you iMac folk. Called the SlimScan C3, it'll set you back a mere $80. The specs don't mention Mac support, but wouldn't you know it, there's a Mac driver available for download at the company's Website (www.microtek.com). Funny thing, though — Microtek had the name wrong as of press time; the software's listed on the site as the driver for the ScanMaker C3, though closer inspection reveals it's actually the driver for the SlimScan C3. Now you know.

Microtek, 800-654-4160

Simple Is as Simple Does

Simple Technology has a new USB flash-card reader to help you digital shutterbugs bring your creations to the iMac. The PhotoReader, priced at $130, automatically detects any flash card, such as the CompactFlash variety, when it is inserted. The company also has a SCSI version for $250.

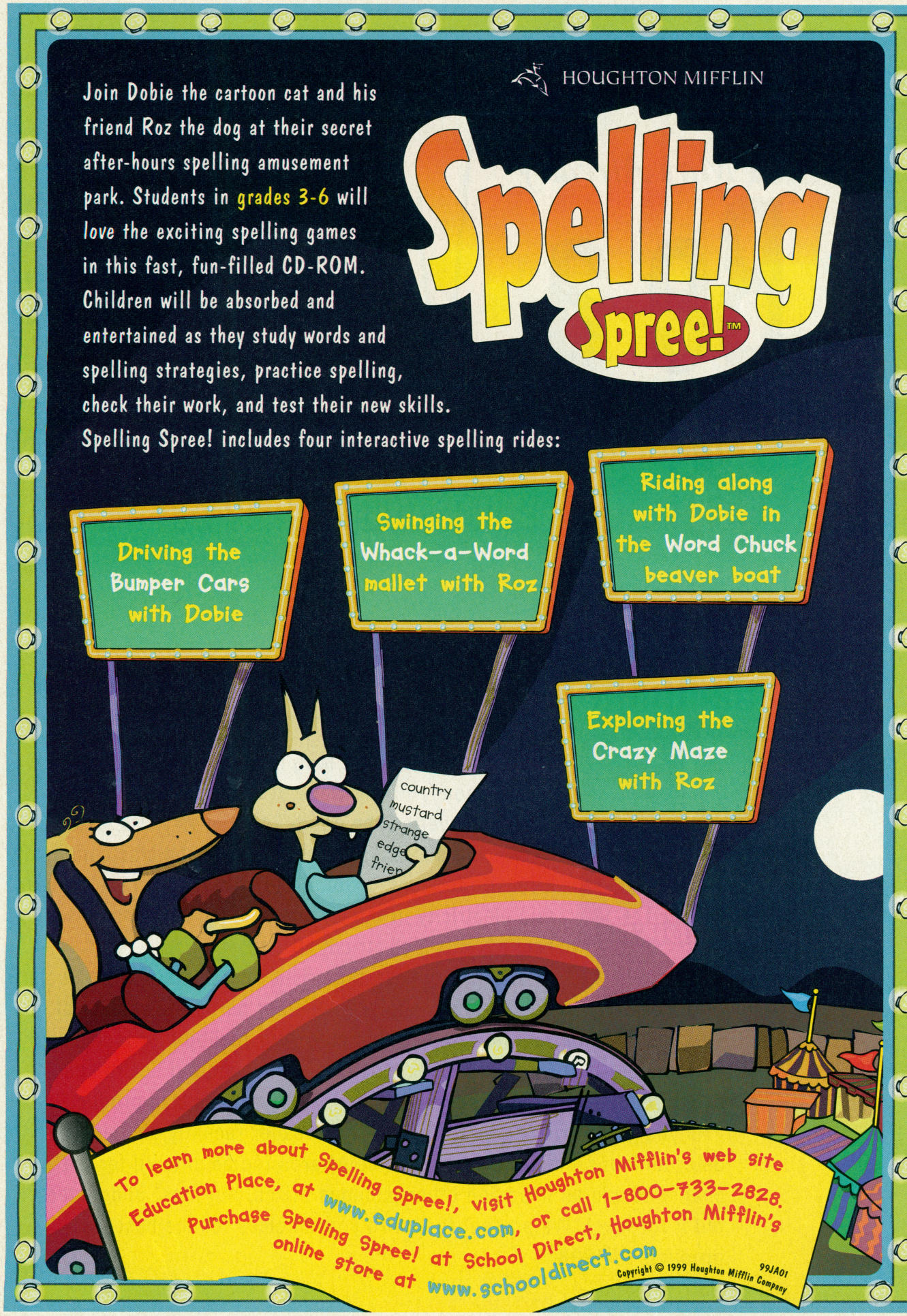


Simple Technology, 800-367-7330

Face the Music

In music circles, there's some consternation over the integration of MIDI devices and the iMac's USB port. We reported last month that Opcode will support MIDI over USB in an upcoming OMS (Open Music System) release, and now a source close to the company tells us things are moving along swiftly with the hardware part: an actual USB-to-MIDI interface. Mind you, there's no actual announcement yet.

Opcode Systems, 650-429-2400


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You *May Already* Be a Winner!

MacHome's 1998 Readers' Choice Awards Brings You Nothing But the Best

by John Poultney



If 1997 was the year of the turnaround for Apple, 1998 was the year of validation.

The company at long last veered away from its money-losing ways of yesteryear, and began delivering the goods in a big way. The astonishing success of the iMac gave the Mac community a reason to laugh again, so to speak, and there's a certain electricity in the air surrounding all things Mac. Feel it? That's electricity, friend.

With every year, there is a rich pageant of products that make their way to the marketplace, whether on be the shelves at your local retailer, in the catalogs that clog your mailbox, or increasingly to commercial sites online. Well, given Apple's newfound health and overall coolness factor, 1998 was a big, beefy year for Mac products.

As you do every year, you the *MacHome* reader recently chimed in to determine our annual Reader's Choice Awards (some entered for the chance to win an iMac and other fabulous prizes, but most undoubtedly did it for love). We present forthwith your choices for the best Mac products of 1998.

Hardware

Best Computer: Mac G3 Desktop

The sheer, unprecedented processing power of the PowerPC G3 chip gave Apple a sure-fire winner. And win they did with the G3 desktop systems. Available in both tower and standard desktop configurations, these machines renewed the Mac's reputation for supreme graphics and as multimedia workhorses once again. Aside from the technical achievements, Apple also worked some magic on the prices, bringing these versatile machines down to the sub-$1,500 level. The iMac scored a close second, missing first place most likely because it was introduced relatively late in the year and lacks the expansion options of the standard G3 desktop.



Apple Computer, 800-538-9696

Best Monitor Manufacturer: Apple Computer

Apple may have divested itself of many of its product lines, but it still makes monitors ... and how. Aside from the iMac, one of 1998's most mind-blowing industrial designs was the stylish, futuristic Apple Studio Display. Resplendent in dark-blue translucency and a sharp, crisp flat-panel display that seems to pop from the frame, this beauty turned many a head during the year, including that of *MacHome* reviews editor David Weiss, who stated without apparent irony that if the current price of $1,299 been in effect when he evaluated this model against other flat-panels (in our September issue, when it was priced at $1,999), it would have crushed the competition handily.



Apple Computer, 800-538-9696

Best Removable Media: Iomega Zip

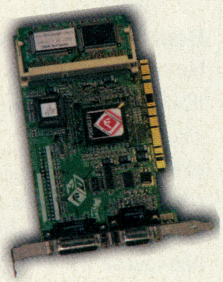
No doubt about it, Iomega hit a home run when it introduced this product a couple years ago, and it keeps swinging. It won top honors in this category last year too. Though there were some rough spots during 1998 — the Zip Plus turned out to be not much of a plus for the Mac crowd, other than including (yawn) an on/off switch, and there were also reports of data loss using this drive (the Plus version only) — the Zip more than held its own. Coming soon: higher-capacity (250MB) and USB versions.



Iomega, 801-778-1000

Best Graphics-Card Manufacturer: ATI Technologies

The Mac won't be a second-tier game platform for long if ATI has anything to say about it. Gamers and anyone else with a need for superfast graphics, 3D and otherwise, are flocking to ATI's Xclaim line of PCI cards. Based on the company's powerful RAGE chip, the cards are available in several combinations. Next up is a 128-bit RAGE chip, doubling the graphics pleasure of the current generation's 64-bit processing (see story, page 12).



ATI Technologies, 905-882-2600

Best Color Printer Manufacturer: Epson

Epson is one of only a handful of companies that make Mac-specific printers. Not just one or two printers either. While the 850, PhotoEX, 600, 700 connect to standard Mac serial ports, the 740 sports an iMac-friendly USB port. Super-high resolution, photographic-quality image reproduction and Barry White-smooth gradients, the Epson inkjets become more impressive with each generation. Given such an obvious commitment to the platform, can more stellar models be far off? We think not.

Epson, 800-463-7766

Best Modem Manufacturer: Global Village

This company has always been there for Mac users. Though it has fallen on troubled times in the past couple years, it was recently acquired by Florida-based modem vendor Boca Research. The products keep coming, and they still say Global Village. Even though they're now made by Boca. Got me? Among last year's speedy offerings was the Teleport 56K v.90, a 56Kbps Web-surfer's dream available in either PC Card or external versions. The Teleport won top honors in this category last year as well.

Global Village, 800-736-4821

Best Scanner Manufacturer: Umax

Though Epson nipped at its heels, Umax garnered the top spot for its scanners, which are inexpensive high-quality, and available in either SCSI or USB versions. One of them, the $149 Astra 1220U, to be exact, snagged an impressive 4.5 apples in *MacHome*'s December 1998 review. The company also has a SCSI version, the $179 1220S, for the iMac folk, and the



wallet-friendly 610S, tipping the scales at a mere $119. This one's for the thrifty people ... you know who you are.
Umax, 800-562-0311

Best Digital Camera Manufacturer: Sony

MacHome readers must not care much for cables, because Sony is the winner here, and Sony's digital camera, the Mavica, sure don't use no stinking cables. Instead, it uses a good old floppy disk to store images, so you can just transfer the images that way. The $599 MVC-FD51 and the $799 MVC-FD71 both store up to 40 compressed JPEG-compressed images on a single floppy, or half that many in "fine" resolution. Smiles, everyone, smiles!



Sony, 800-342-5721

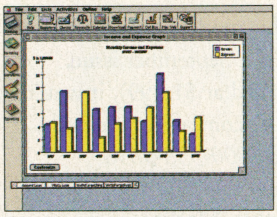
Software

Best Word Processor: AppleWorks (neé ClarisWorks)

Apple used to have a software-only subsidiary named Claris, which is now FileMaker Inc., and this package used to be ClarisWorks, but now it's AppleWorks. Got it? Well, this is actually what we call an application suite, containing not only a word processor but also graphics, illustration, spreadsheet, charting/graphing, presentations and database functions. All this for $99. Kinda like Microsoft Office only less expensive and with more forgiving system requirements.
Apple, 800-538-9696

Best Finance Package: Quicken

This package got an overwhelming 71% of the votes in its category — the biggest percentage of any product in our poll. So it must be something special.



Longtime users of Quicken, such as MacHome's esteemed Editor-in-Chief Alan Stafford, swear by the program and assert that their checking accounts are balanced to the penny. Quicken can also help out with electronic banking, which is by all accounts, the future.
Intuit, 800-446-8848

Best E-Mail Application: Netscape Communicator

You may think it's just a browser, but Netscape (America Online?) Communicator has many other features, including a robust e-mail module, groupware (for scheduling meetings, protest marches and such), and even whiteboard-style teleconferencing if you're really cool. Communicator can use either Post Office Protocol 3 or Internet Mail Access Protocol 4 for messaging, so it can deal with just about any message format.
Netscape Communications, www.netscape.com

Best Web Browser Netscape Navigator 4.0

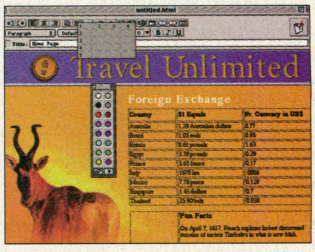
Huzzah for Netscape! For the second year in a row our readers chose Navigator as their favorite Web browser over Microsoft's Internet Explorer. By a ratio of almost four-to-one! Last year's ratio was closer to five-to-one, so Microsoft's gaining, but not by much. At any rate, Navigator uses the same browser you'll find in Communicator, but without all the fancy-schmancy messaging and groupware business.



Netscape Communications, www.netscape.com

Best Web Page Creator Adobe PageMill

For a product that hadn't been updated in a long time, PageMill has a lot of fans. Now at version 3.0, the package aims at users whose expertise is in areas other than Web publishing. We have to admit, it makes sense. PageMill makes it simple to slap a page together quick-style, yet still have it look pretty decent. Sure, there are more full-featured packages, but PageMill thus far is the people's choice, edging out last year's winner, Claris HomePage, by a healthy margin.



Adobe Systems, 800-833-6687

Best System Maintenance and Protection Utility: Norton Utilities

Just like last year, another landslide victory for smilin' Peter Norton! Or at least for the package that displays his slyly grinning visage. Almost five times the number of reader voted for Norton Utilities than for the next-highest vote-getter, Conflict Catcher. Could it be because Norton includes CrashGuard, which keeps the rest of your system running if an application crashes? Or because it can tell you why the crash occurred and possibly let you save the data? Perhaps it's the popular Speed Disk defragmentation utility or the mysterious UnErase feature. One thing's for sure — this package has its Mojo workin'.
Symantec, 800-441-7234

Stellar Software

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"RedShift 3 has got to be the best in its field"
– CBS news program, Up To The Minute

"It's what multimedia *should* be."
– Computer Gaming World

Consumers Digest 1998 Best Buy Award

www.redshift3.com

* PC Data July, 1998 monthly estimate of 100% U.S. retail dollar sales

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Best System Enhancement:
Stuffit Deluxe

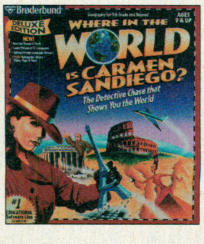
Aladdin Systems' versatile StuffIt has always sent Mac users into a compressing and decompressing frenzy. With StuffIt Deluxe, you can work with a very wide variety of file formats, decoding even the stubbornest PC files. Most of the time, anyway. Deluxe integrates well into the Finder with OS 8 and above. It's like having a Navajo code-talker in your house, kind of, in a way.
Aladdin Systems, 800-469-4564

Best Creativity Application:
Photoshop

Another winner from last year, Photoshop keeps adding people-pleasing



features. Adobe added bucketloads of cool features to this virtual darkroom with version 5's release last year, including a History palette that details changes, 3D perspective editing, better text handling, and potent new color-managment functions for power users. Adobe could have done much less to this package and still have a winner, we reckon.
Adobe Systems, 800-833-6687



Best Learning Program, Children:
Carmen Sandiego Series

Geography is becoming a favored topic once again, thanks to Broderbund's popular game-like program. Kids who were once clueless as to the far reaches of the globe can now point to a map and show you where Siam, Prussia, and the Belgian Congo are. Wait, those countries changed their names. Um ... anyways, engaging gameplay and challenging questions make this program a winner in most anyone's book.
Broderbund, 800-521-6263

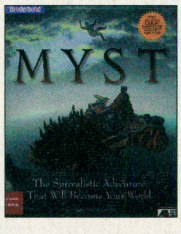
Best Creativity Program, Children:
KidPix Studio

Another Broderbund gem, KidPix gets your kids used to sitting in front of a computer early on. The program has lots of painting, animation, and other multimedia functions that are sure to bring out the artist — nay, *artiste* — in any modern child.
Broderbund, 800-521-6263

Best Game, Children:
Putt-Putt Series

Humongous Entertainment's Putt-Putt is a cute, wholesome, downright *pinchable* little convertible car that gets into all kinds of mischief yet manages to save the day time after time. Whether Putt-Putt is at the zoo, on the moon, or merely traveling through time, this little car is always ready to give kids a gentle challenge and a heart-warming smile.
Humongous Entertainment, 800-499-8386

Best Adventure Game:
Myst



Three years running, Broderbund's groundbreaking Myst continues to knock the socks off of *MacHome*'s readers. Though supposedly made obsolete by its sequel, *Riven*, our respondents prefer the down-home Zen of the original, where no one tries to kill you, and the scenery is almost always lovely.
Broderbund, 800-521-6263

Best Simulation Game:
FA-18 Hornet

MacHome's readers love a good time, even if it's based on a terrifying fighter jet capable of shooting bandits out of the sky and uncooperative (if unaware) enemies on the ground. But politics aside, this flight simulator from Graphics Simulations features outstanding graphics and realistic flying action. A sure winner for the jet fighters in our midst.
Graphic Simulations, 800-580-4723

Best Action Game:
Quake

MacSoft's *Quake* is not for the squeamish, but neither are any of its contenders in this category — *Battle Girl, Carmageddon, Duke Nukem, Postal* ... you get the idea. Violence aplenty. Quake, say the fans, does a better job than anyone at the ever-popular shoot-em up, first-person gameplay scenario. You got the double-barrelled shotgun! We love when it says that.
MacSoft, 800-229-2714

Best Strategy/Role-Playing Game:
Civilization II

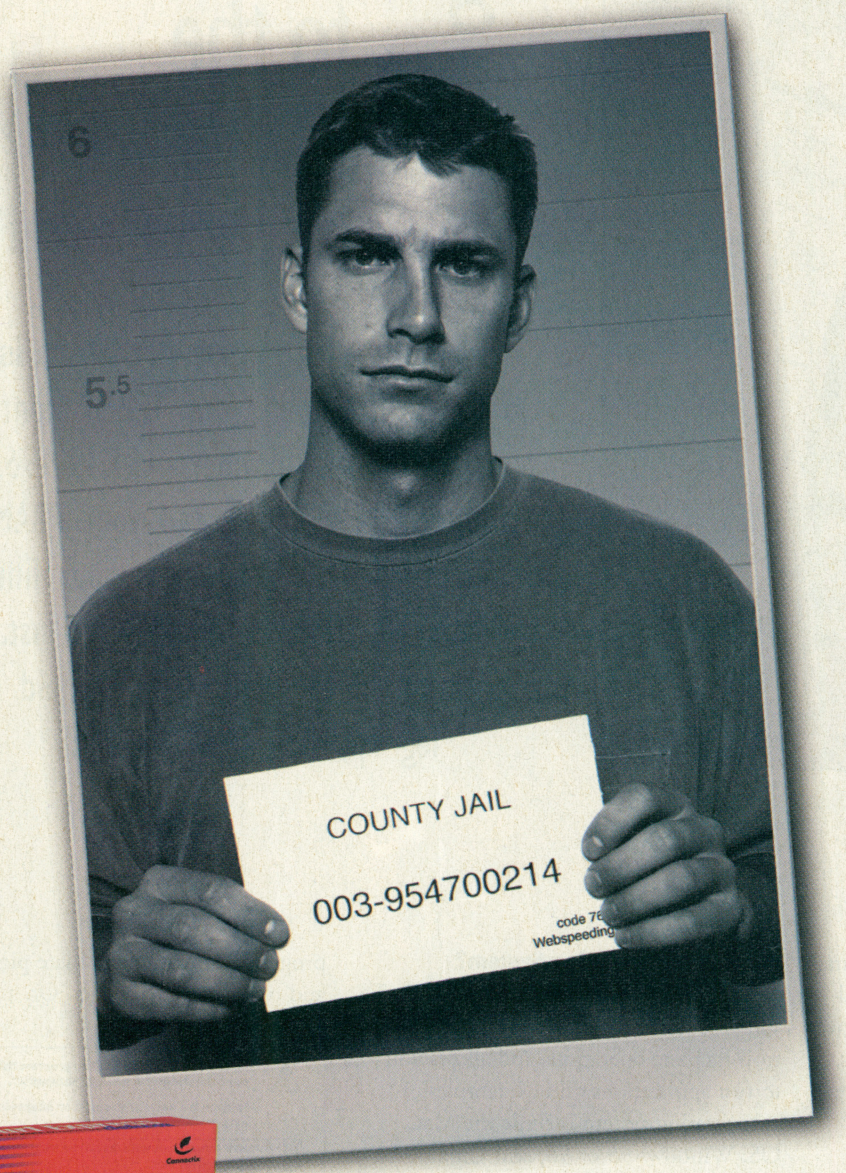
Another MacSoft offering, this game plunges readers into the dark, exciting and mysterious world of resource management. Thrill to the responsibility of sending soldiers to war! If not enough of them come back, rethink your strategies. Simple as that. And ... as complicated as that. Think about it.
MacSoft, 800-229-2714

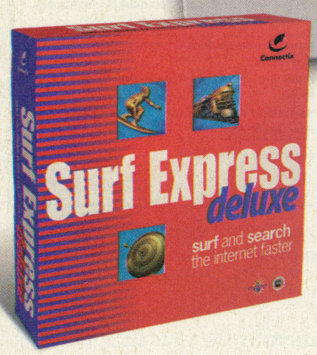
Best Overall Product
The iMac



MacHome's readers obviously appreciate quality. Because they read *MacHome*. But also it's because they overwhelmingly chose — and remember, they could've chose *anything*, hardware or software — Apple's fantabulicious iMac as the Product Of The Year. Go figure. What else would they have picked? Honestly.
Apple Computer, 800-538-9696

Busted! for Speeding on the web



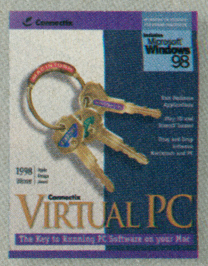


CHARGE: Clocked at unbelievable web-surfing speeds
WITNESSES: C|NET, PC Computing, MacAddict and ZDNet*
VERDICT: Guilty as charged

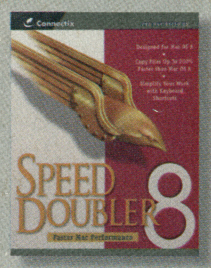
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(Still Legally for sale)

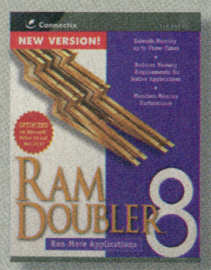
Other Award-Winning Connectix Products



Run Windows on your Mac



Speed up your Mac



Run more applications simultaneously

Connectix

* See the Connectix website for information about awards given and recommendations.

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Beginner's Guide to the Macintosh

"I know what your problem is. To fix it, just open your TCP/IP control panel, enter the numbers 157.12.456.23 and 157.12.456.124, zap your PRAM, rebuild your desktop, delete your finder preferences, rename folder A, re-install application B, call your mother, hold one leg up, blah, blah, blah ..."

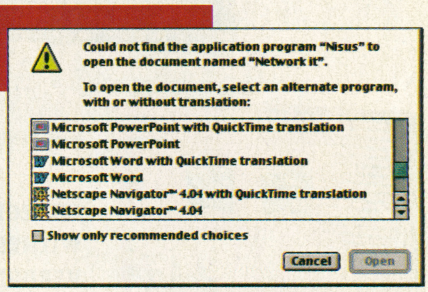
Using a Macintosh for the first time usually is a wonderful experience filled with discoveries and pleasant surprises. Subsequent use builds on those discoveries and increases your knowledge and skill. But at times it can be a little like taking a car in for service: the information you receive may be filled with terms you've never heard but need to understand to make good decisions.

You don't have to become a Certified Apple Technician to know the basics. Here, we're going to start over at the very beginning and explain how everything works. Whether you're a beginner or just looking for a refresher course, read on.

What Is an Operating System?

An **operating system** (OS) is a group of software that runs on a computer, controls its basic operations and allows you to run applications on it. Examples of an operating system include the Mac OS, Windows 95 or 98, and Unix. On its own, an operating system won't let you do much, but the computer must have one if you want to use applications on it. An operating system also provides communication between you and the computer hardware.

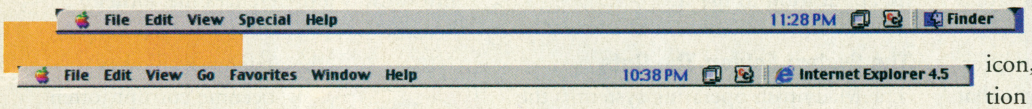
Applications are software programs that perform specific functions. A word-processing program lets you write letters, read text documents, and create flyers and advertisements; an image-editing program lets you manipulate pictures and other graphic images. On a computer, a **document** is file that an application creates or modifies: It doesn't do anything on its own, but you can open



The Mac OS can often open documents that were created by applications you don't have.

it with an application, as long as the application can read the document's format. For example, an image-editing program can't open a word-processing program. However, a word processor may be able to open or incorporate an image into a word-processing document.

All applications are operating-system specific, meaning the Macintosh version of an application won't run on a computer running on Windows 95, for example. Companies often put out versions of the same application for both types of operating systems, with identical functions, but the applications only run on the machine for which they were programmed. Many documents, however, will open on any type of computer, as long as the host computer has an appropriate application with which to run them.



The menu bar changes to offer more options, depending on which application you're using.

Put on Your Best Face

The operating system also dictates what you see on your computer monitor's screen. The Macintosh operating system was the first mass-market OS to use a **graphical user interface (GUI)**, which is the visual display of icons (pictures representing applications, documents and folders) on your screen, and it continues to use it today. While it's much easier to use than the old-fashioned method of entering lines of arcane code, some techniques can still be obscure.

The **Finder,** while part of the Macintosh operating system, is actually an application that displays the Macintosh **desktop** (the basic interface of icons on a backdrop). Even when you don't have any other applications up, you use the Finder to run the computer — to open windows, change settings, launch applications, and save and copy files.

The basic Macintosh interface includes a **menu bar** located at the top of the screen; it is comprised of the Apple icon, (which marks the **Apple menu**), File, Edit, View, Special, Help, and the applications menu at the far right. Many applications change the menu bar to add other functions; if you switch between applications, the menu bar changes, and you won't see the same options in the menus that drop down when you click on a menu. If you have multiple applications open at the same time, you can cycle through them by clicking the applications menu and dragging down to another one, clicking in an application's window or on the window's title bar, or by hitting Command-Tab on your keyboard (Mac OS 8.5 only). You can tell which application is active by the icon displayed in the applications menu when you've let go of the mouse button. With the Mac OS, the application that is in front (displayed in the applications menu) gets the highest priority from the computer's processor.

If you click on a menu, you'll see that some commands are displayed in black but others are grayed out, which means they aren't available. If you're trying to do something but the option is grayed out, it means you must do something else before you can use that command. For example, if you click in the middle of your screen (with no windows showing) and try to use the **Get Info** command that's under the File menu, it'll be grayed out, because there's nothing to "Get Info" on. However, if you click once on your hard drive's icon, you can then choose Get Info for details on the hard drive.

With a Macintosh, single-clicking and double-clicking will get you different results, depending on what you're doing. Single-clicking on an icon selects it (the icon will highlight), but for buttons in a dialog box, single-clicking will activate something. Double-clicking an icon on the desktop will cause it to open — if it's an application, usually represented by an uniquely shaped and colored icon, the application will start up; if it's a document, the application with which it's associated will start up and open the document. An **alias** is a small file that serves as a pointer to an application or a document: If you double-click on an alias, it launches the application or document with which it's associated.

The Mac OS is usually quite intelligent about picking the right application to open up a document; the operating system can read the code inside the document that tells it what application was used to create it, so it can pick an appropriate application on your hard drive to open it. Most times it will display a document icon on your desktop that looks like that of the application it will use to open it. That is, if the document is an image file that uses the **JPEG** file format (different image file formats are used to make the files smaller or display differently) and you have Adobe Photoshop on your system, the icon will be Photoshop's familiar eye icon. However, if you've previously used JPEGView (an image-viewing application), the icon may show up with JPEGView's icon. If you double-click the icon, it will open with the application whose icon it carries, but you can force another application to open the image by either dragging and dropping the file onto the another application's icon or opening the image from within the application with the Open command.

Taking Command

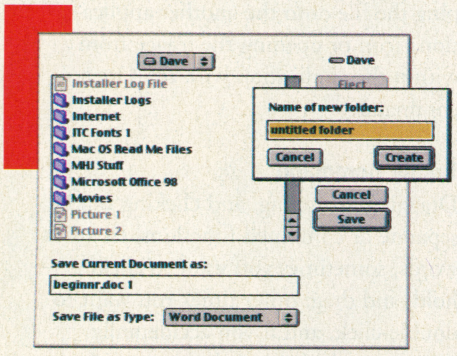
Dragging, dropping, and clicking can be separate or combined functions. In other words, sometimes you want to click, hold, and drag; other times you want to double-click, and if you accidentally drag even a little bit in between clicks, nothing will happen except for a highlighted icon. You'll probably quickly acquire the skill of keeping the mouse still while clicking, though.

You can select multiple icons or folders, either on the desktop or in a Finder window, by holding down the shift key on and single-clicking on additional items, or you can click and drag to draw a box over the items with your pointer. Select everything in a window by choosing **Select All** from the Edit menu, or by hitting Apple-A on your keyboard.

Many actions can be accessed with either a menu or keyboard command; some keyboard commands are listed beside the corresponding command in

the menu bar. A Macintosh keyboard includes a few modifier keys — the **Apple** (a.k.a. Command) key, the **Option** key, and the **Control** key. The modifier keys don't do anything on their own; they only work in conjunction with other keys on your keyboard. For that reason, when you use a key combination, it's best to hold down the modifier key or keys first, then hit the other key. Trying to hit them all at the same time might result in your missing the key or hitting the second key first.

Open a folder by either double-clicking it or, in a list of items, single-clicking the little triangle beside it. You can rename files or folders by single-clicking the text below the icon and waiting for it to highlight, after which you can type in a new name. If you want to save a file to your hard drive, simply hit Apple-S on your keyboard. If you want to save a copy of it (with a different name), use **Save As** from the File menu. The difference between the two commands is that you get more options with Save As — you can not only rename it, but also you



To save different versions of a file, use Save As from the File menu.

can put it where you want, or even create a new folder in which to put it.

To discard a file or folder, simply drag it to the **Trash** icon and let go; you can empty the trash at your leisure with the **Empty Trash** command under the Special menu. You can also eject CD-ROMs and floppy disks by dragging them to the trash. Don't worry; nothing gets discarded if you drag either one to the trash.

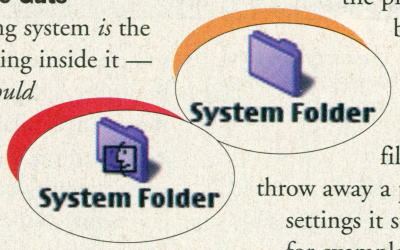
You can drag and drop more than just icons, however. In many applications, you can highlight text or select a picture and drag it into another document in either the same application or another application. This is a good way to open Web pages: Highlight the **URL** (Uniform Resource Locator, or Web page address) in an e-mail application by holding down your mouse button and dragging across the entire address. Let go of the mouse button, then click and hold again on the highlighted text and drag it into your Internet browser's location window. Hit return to tell the browser to go to the address. You can also drag text from most documents to your desktop; the Mac OS will make a little text clipping file. Later you can drag the clipping's icon into other applications, and you don't even have to open it with an application to use it.



Drag and Drop: Highlight the text, then drag it to the desktop.

The System Folder: The Guts

The Macintosh operating system *is* the **System Folder.** Everything inside it — well, everything that *should* be inside it — controls how your Mac works. Here's how the things in the system folder work.

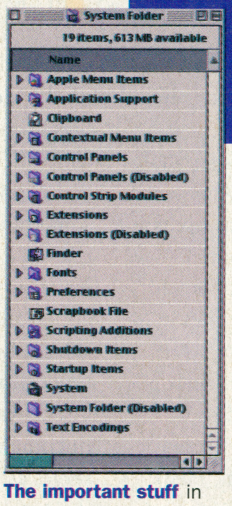


The System Folder: blessed and unblessed.

There are three very important subfolders within the System Folder: The **Control Panels** folder, the **Extensions** folder, and the **Preferences** folder. The first two have similar traits, in that they load into the computer's **memory** certain functions that go beyond the basic workings of the operating system. Control panels differ from extensions in that they are customizable by you, the user — you can double-click them to start them up and set them the way you want. Extensions can't be opened; they modify the system software in only one way — the way the software developer wants it work.

Many control panel settings are stored in a special chip on your computer's **logic board** (the main circuit board) called the **PRAM** (Parameter Random Access Memory) chip. A battery on the logic board allows the chip to retain control panel settings when the computer is turned off. If the battery dies, the settings go with it, and you must reset such things as your date and time. The settings will stay the same as long as the computer is running, but shut it down and they will go away.

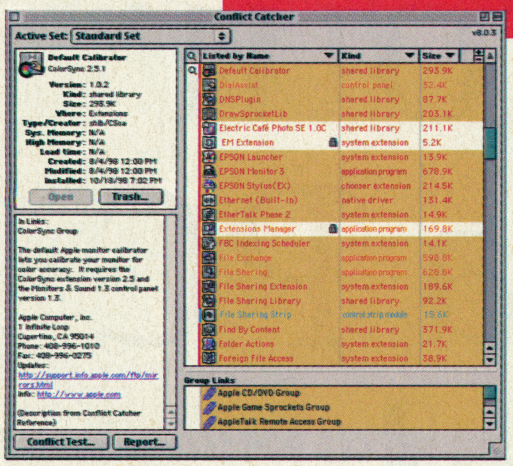
The Preferences folder is where most applications (including the Finder) store semi-permanent settings. Some applications even store their serial numbers in a file inside your Preferences folder. Unfortunately, sometimes we need to throw away a preferences file, either because we're installing new software or the preferences file has become corrupt (often when problems occur, it's because of a corrupt preferences file). But when you throw away a preferences file, the settings it stores disappear. So, for example, if you trash your modem preferences, your modem won't know what settings to use, and it may not work correctly. Fortunately, preferences are often portable — you can drag them somewhere else on the computer or copy them, install software, then drag the preferences file back into the Preferences folder so that you don't have to re-enter all that data.



The important stuff in your system folder.

Your computer will start up just fine without any active control panels or extensions (if you down the shift key at startup). However, because so many things on your computer rely on those pieces of software, you won't be able to do much without them. But control panels and extensions take up system memory, so

it's best to use only the ones you need. How do you know which ones you need? A few freeloaders are easy to spot by their names: Anything with **PowerBook** in its title isn't necessary for a desktop computer. A shareware application, Dan Frakes's InformINIT (downloadable from cafe.AmbrosiaSW.com/DEF/InformINIT.html), offers extensive information on control panels and extensions. The Mac OS's **Extensions Manager** provides some information on them; Casady & Greene's **Conflict Catcher** system utility will tell you about almost all of them. If you disable a control panel or extension with the Extensions Manager or by dragging it to the Control Panels (disabled) or Extensions (disabled) folder, respectively, your system will still start up, but some things might not work. It's easy to lose track of what you've disabled, so if you're a beginner, use the Extensions Manager's Sets function, which will let you make a backup set so you can experiment.



Conflict Catcher 8 has a large database of descriptions for almost everything in your system folder.

Preferences don't take up memory, so for the most part you can leave them alone. They come into play is when something on your system isn't working properly. Often trashing the associated preferences file will make it run smoothly, but if it's an application's preferences, make sure you have the serial number recorded somewhere. When you trash a preferences file, you must do it when its application isn't running. When you restart the application, it will create a new, clean preferences file.

Your computer won't start up if two things in the System Folder get moved out of it: The **System** file and the Finder. The System file stores keyboard and sound settings. If either the Finder or the System suitcase is moved out of the System Folder, the little smiling face on the System Folder's icon will disappear. This means the System Folder is not "blessed," i.e., it is not capable of starting up the computer.

A couple of other things inside the system folder are important: the **Fonts** folder, which holds all the fonts that are available to all of your applications, and the **Apple Menu Items** folder, which holds all the things you see when you click on the Apple menu in your menu bar — aliases, commands, and so on. You can drag things in and out of this folder for easy access through the menu — even an alias of your hard drive, so you can scroll through anything on your hard drive with ease.

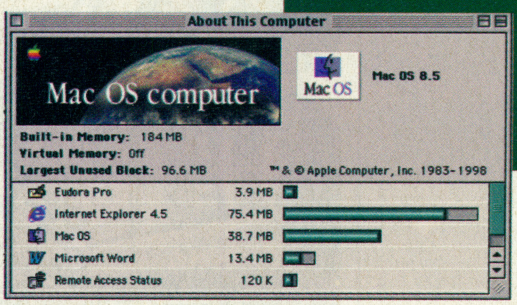
The Way Things Work

Unlike other operating systems, the memory that each application takes up is fixed while it's running. You set how much an application takes up by single-clicking on its icon to highlight it, choosing Get Info from the File menu, and selecting Memory from the Show pull-down menu (Mac OS 8.5). All applications come with a setting already made, but some of them need more, depending on what you're going to do with them. For example, if you work with very large images in your image editor, you should increase its memory setting.

What is memory **(RAM),** and how does it compare to hard disk space? Think of it in terms of a grocery store: The grocery store is your hard drive, and memory is your shopping cart. When you want to cook (use) something, you take it off the grocery store's shelf and load it into your cart. The space in your cart is much smaller than the grocery store, so you can't put everything in it at once (though you can get a bigger "cart" by buying more memory (RAM chips).

However, the Mac OS (and most other operating systems) use a technique called **virtual memory** to allow you to have more things in your cart than it normally holds. Virtual memory sets aside space on your hard drive to simulate memory; it swaps data in and out of memory depending on which application is active. The operating system's access to RAM chips is much faster than it is to your hard drive, though, so your system slows down substantially if you run too many applications at once. RAM is usually measured in **megabytes** (MB), while hard drives can be referred to in terms of **gigabytes** (GB) or megabytes. A gigabyte equals 1,000 megabytes.

Similarly, if you run applications off of the **CD-ROMs** they come on rather than your hard drive, your system will slow down because the system's access to the CD-ROM drive is slower than it is to the hard drive. That's why it's best to copy most programs to your hard drive.



Memory (RAM) is temporary storage that's measured in megabytes; your hard disk is permanent storage that's measured in either gigabytes or megabytes.

Begin Again

Software manufacturers (and software reviewers) are fond of dubbing a program "intuitive," as if the program knows what you want it to do without your having to tell it. Of course, no program — or computer — can read your mind, but some are better than others at being easy to use. Here's to the Mac for being pretty close to clairvoyant. MH

Using Your Mac in a PC World



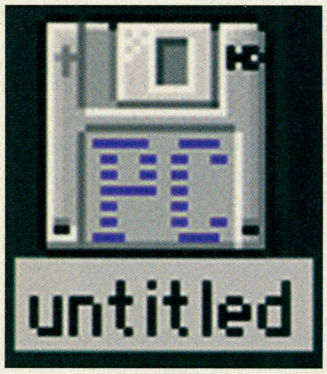
YES, YOU CAN.

By Jeff Battersby

MIKE WEEKS

So you want to use a Mac at the office, where PCs proliferate.

Or, you have plans to run your business using a Mac, but you need to cater to customers who are using PCs. Chances are, if you've voiced such ideas aloud, you've heard enough laughter to leave you feeling like you've trotted into the office in your underwear.

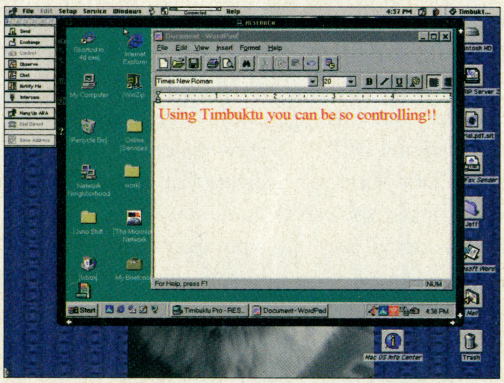


The party line in this PC world has been pretty straightforward: If you're a loner or a graphic artist, go ahead and use a Mac. But if you want to get some serious work done and you want to play well with others, you must use a PC. Well, to paraphrase a saying, "There are lies, there are damned lies, and then there are excuses why you can't use a Mac with PCs."

If you're currently using a Mac, you're already well aware that it's a great computer. But what you may not know is just how well your Mac can interact with and integrate into a PC environment. In fact, the Macintosh is so well designed that it's often easier to add a Mac to a PC network than it is to add a PC to that network. Whether you simply need to share files via a floppy disk or a removable cartridge, or if you have to collaborate with others on the company LAN, your Mac can do it all. So step right up while we debunk common myths and show you how easy it is to be a Mac in a PC world.

Floppy Disks and Sharing Files

Chances are, if you've spent any time using a Macintosh, the most common reason you've heard that Macs don't work well in a PC environment is because they use a completely different file format: Windows-based computers can't read files on Mac formatted disks. But while it's true that PCs can't read Mac-formatted disks, a Mac can easily read, write to, and format PC disks, and they've been able to do it since 1989. In fact, your Mac can do the same thing with removable cartridge drives, such as Jaz and Zip drives, and with hard disks.



Use Timbuktu Pro to control Macs *and* PCs over a LAN or the Internet from the comfort of your Mac desktop.

Your Mac accomplishes this little trick with OS 8.5's File Exchange Control Panel. (In earlier versions of the Mac OS, the File Exchange Control Panel was broken into two separate Control Panels called PC Exchange and Mac Easy Open.) The File Exchange Control Panel serves two purposes. First, when you insert a PC-formatted disk into a Macintosh drive, File Exchange recognizes it and then mounts it on your desktop. Second, File Exchange contains a database of literally hundreds of PC file types so that your Mac knows what PC files should be opened by which Macintosh programs. In fact, the program works so well that if you insert a disk with a Microsoft Word 97 file on it, and if you have MS Word for Macintosh on your computer, the document will appear as a Word for Macintosh document on your desktop. A simple double-click on the document will immediately open it in MS Word.

But what happens if you don't have the program that created the PC document? Say you have to work on a WordPerfect DOS file using your Macintosh, and the only word processing program you own is ClarisWorks. No problem! Up until the release of OS 8.5, every Mac included a

A Word to the Wise

(Or, How to Make Changes without Being a Jerk)

So you've just been imbued with the knowledge that your Mac actually will work at the office. Now it's time to pull out a few choice clichés. First:

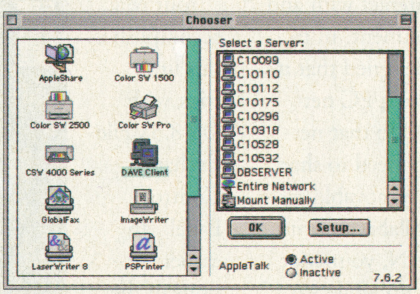
"A Little Knowledge Is a Dangerous Thing."
No doubt you now feel empowered enough to drag your Mac into the office, plug it into the network and "show those idiots in MIS just how stupid they are." If you do this, and your company has a reasonably intelligent computer policy, you'll likely spend the next day perusing the want ads. Informed consent should be the rule of the day. Let your MIS staff know what you'd like to do. If they're overwhelmed at the prospect of supporting some "unknown" operating system on their network, assure them that you won't expect any "special" tech support and that you plan on taking care of yourself. Who knows — for an overworked IS staff that may well be the icing on the cake.

"You'll Catch More Flies with Honey than with Vinegar."
Nobody likes a know-it-all. Worse, nobody likes a know-it-all with an attitude. Throwing this article in some unsuspecting MIS staffer's face and yelling, "Look, you moron! This article says the same things I've been telling you for months. Now cut the excuses and give me a Mac," will neither win friends nor influence people. Best to take a lesson from Miss Manners — lose the attitude and be on your best behavior. If you find a way to make it easy for someone to say "yes," chances are that's the answer you'll get.

copy of DataViz's MacLinkPlus; you can purchase a commercial version that has even more features. MacLinkPlus is a powerful program capable of converting hundreds of document types, whether Mac or PC, from one format to another. So not only are you able to open a DOS WordPerfect document in ClarisWorks, once you're done making changes, you can then save the file back to its original format using the "Save As ..." command. While MacLinkPlus has some occasional limitations — tables embedded in MS Word documents sometimes appear as uneditable graphics when translated to ClarisWorks — the program generally works without a hitch.

Cross-Platform Applications

Applications are the crux of office computing; word processing, spreadsheets, presentation programs and databases are the stuff that business is made of. Typically the second excuse given for why a Mac won't work in a PC environment is that the applications businesses use aren't available for the Mac. To which you should quickly reply, "Which ones?" Sure, there are some programs that must be run on PCs — a problem we'll discuss a little bit later — but the vast majority of mainstream PC programs are also available for the Mac. And in many cases those programs are fully compatible with their PC counterparts. While it won't be possible to list every major commercial program available for both Mac and PC, we can briefly list the most common programs available for both platforms:



Howdy, Dave! With Dave installed, you can access Windows PCs via the Chooser.

Microsoft Word, Excel, and PowerPoint — These applications tend to be the standard business productivity packages in the vast majority of offices. With the recent release of Microsoft Office 98 Macintosh Edition, Microsoft has changed the Mac's status from that of a neglected stepchild to a full-blown member of the Microsoft Office family. Files created on the Mac are fully compatible with those created on PCs, right down to the file format. Opening Office 97 files on your Mac is as easy as a double-click.

WordPerfect — Once upon a time WordPerfect was the de facto standard of business word processing. Even though the program has slipped in prominence over the past several years, it continues to be a force in many offices, especially in the legal environment. WordPerfect for the Mac is able to handle any files create with its Windows counterpart.

Claris/AppleWorks, FileMaker Pro, and FileMaker Home Page — FileMaker Inc., formerly Claris Corporation, has been making its products completely platform-independent for several years. Whether you're creating databases using FileMaker Pro or working on word processing, spreadsheets, or databases in AppleWorks, all files can be shared seamlessly whether you're using a Mac or Windows. In fact, FileMaker Pro databases can be shared across a network simultaneously by both PCs and Macs. HTML documents, which are created with tools such as Home Page, don't care what platform they're on. So Web pages created by Home Page on the Mac (or any other Web creation tool) can be read and changed using any Web tool on a PC.

TimeSlips — If you're billing for time, chances are you're using TimeSlips to maintain time records and bill your customers. TimeSlips has long been a standard on the Mac and, like all the other packages listed above, is fully compatible and networkable in both PC and Mac environments.

Adobe Systems Software — Adobe, makers of PageMaker, Photoshop,

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Illustrator, and dozens of other graphics- and publishing-oriented products, creates an entire line of programs that can share data across platforms.

StuffIt Expander — If there's one cross-platform issue that's likely to cause more problems than any other, it's compressed files. To most PC users, compressed Macintosh files attached to e-mail appear as garbage text. To solve this problem, give all of your PC-using friends a copy of the free program StuffIt Expander for Windows. Not only will StuffIt Expander open Mac StuffIt files, it's also perfect for expanding Zip files, which are the standard in the PC world.

Sharing Information Across a Network

Sharing files with PC users across a network is a potentially difficult proposition. Network operating systems can be finicky, and the likelihood for trouble lurks around every corner. But with a little help, your Mac can handle the job quite easily. Every Macintosh sold today — including the iMac — ships with Ethernet networking capabilities built in. There are also several Apple and third-party extensions, control panels, and applications that will help you fit nicely into any networking environment.

Windows 95/98's built-in networking, commonly known as peer-to-peer networking, is by far the most common networking environment in most offices (especially small offices). Fortunately, you can easily integrate a Mac into a Windows peer-to-peer network using Thursby Systems' DAVE. DAVE not only allows you to share PC folders, files, drives, and printers, it also lets you share your Mac's files and printers with Windows users as if they were PC files and printers. The program is amazingly simple to use. PC drives appear in the Chooser alongside Mac drives. Simply select the PC you want to connect to, enter a password, and you're on your way.

Occasionally you may find yourself needing to add a few PCs into a Macintosh-based networking environment. Miramar Systems' PC MacLAN Remote is designed for just such scenarios. This program installs AppleTalk — the standard Macintosh networking protocol — on a PC, making it appear on the network as if it were a Mac. Like DAVE, MacLAN Remote allows PCs to share files with Macs on the network, and printers attached to the PC can be shared with Macintoshes on the network.

Windows NT and Novell networks both include built-in services that allow Macintoshes to save and retrieve files stored on their networks. On Windows NT networks this trick is accomplished using "Windows NT Services for Macintosh." When these services are enabled on an NT network server, all files saved on that server have Macintosh File and Creator types added to them. These services, along with the File Exchange Control Panel, make it simple for Macs to recognize and access files stored on an NT network.

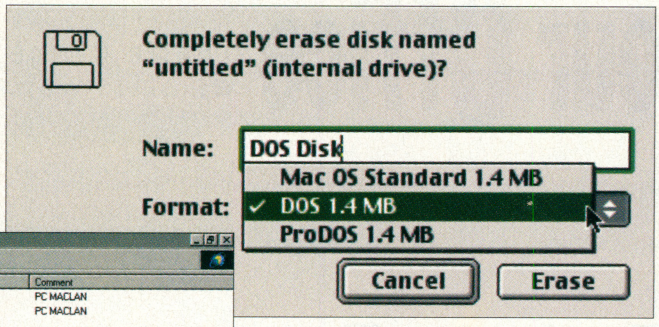
Novell networks have allowed Macs to access network servers for years. The Mac OS includes a copy of Mac IPX, which is necessary if you're going to connect to a Novell network. Better yet, if you're running Novell 5, pick up a copy of Prosoft's Novell Netware client for the Macintosh. This program is designed to provide Mac users on Novell networks with a truly easy, Mac-like experience from installation to configuration.

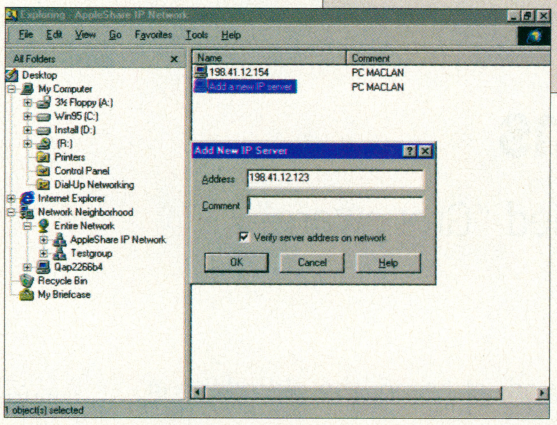
Remote Control and Remote File Access

Help desks that provide support for remote offices often find it necessary to use PC-based remote access products such as CloseUp or Symantec's PC

Product	Company	Phone	URL	Price	Rating
MacLinkPlus 10	DataViz Corporation	800-733-0030	www.dataviz.com	$99	●●●● (1/99)
Microsoft Office 98	Microsoft Corporation	800-426-9400	www.microsoft.com	$499	not rated
FileMaker Pro 4.0	FileMaker Corporation	800-986-2249	www.filemaker.com	$199	●●●●● (3/98)
Home Page 3.0	FileMaker Corporation	800-986-2249	www.filemaker.com	$99	●●●½ (10/98)
Claris/AppleWorks	Apple Computer	800-538-9696	www.apple.com	$90	●●●½ (6/98)
WordPerfect 3.5	Corel Corporation	800-772-6735	www.corel.com	$170	not rated
TimeSlips	TimeSlips Corporation	800-285-0999	www.timeslips.com	$400 (single)	not rated
Stuffit Expander 5.0	Aladdin Systems	831-761-6200	www.alladinsys.com	free	not rated
Dave 2.1	Thursby Systems	817-478-5070	www.thursby.com	$149	●●●●
PC MacLAN	Miramar Systems	800-862-2526	www.miramarsys.com	$199	●●●●
Novell Netware Client 5.12	ProSoft Engineering, Inc.	925-426-6100	www.prosofteng.com/NW4mac/	$50	not rated
Timbuktu Pro 4.7	Netopia	510-814-5000	www.netopia.com	$90 (single)	●●●●½
Virtual PC 2.1.1	Connectix Corp.	800-950-5880	www.connectix.com	$179	●●●●
Soft Windows 98	Insignia Solutions	800-848-7677	www.insignia.com	$169	●●●●
OrangePC PCfx! Windows Card	Orange Micro, Inc.	714-779-2772	www.orangemicro.com	$649	not rated

Anywhere to solve problems and update configurations at remote sites. These programs allow you to dial up a remote computer or connect to a remote computer via a LAN or the Internet to provide routine maintenance, copy files, or control the remote computer. Unfortunately, neither program can be installed on a Mac; if your Mac is at a remote site, or if you need to access PCs remotely from it, you're out of luck. Well ... that is unless you're using Netopia's Timbuktu Pro Enterprise — formerly known as Farallon Timbuktu Pro. This program is similar to PC products such as CloseUp and PC Anywhere, except that it provides the added advantage of being able to remotely control a PC from a Mac or a Mac from a PC. In fact, you can control a remote PC using Timbuktu with no problem at all, making this the perfect program for consultants who want to use a Mac but still need to provide remote service to PCs.





Above, the Mac OS can format DOS disks. **Left,** PCMacLAN lets a Windows PC connect to an AppleTalk network.

PC Emulation and Hardware

OK, I concede one point here. Sometimes it's impossible to get around the need for a PC — you need to run a specific program that requires a PC. Maybe it's a DOS-based application (yes, much to Microsoft's chagrin, DOS is still used regularly in many offices.) Or perhaps you have a database that can only be run using Microsoft Access, a program that may never be converted to run on a Macintosh. Believe it or not, it's still not necessary to trash your Mac and purchase a PC.

Emulation programs — programs that allow your Macintosh to pretend it's a Pentium-based computer by using very sophisticated software — have come quite a long way in the last several years. What once was a painful, slug-paced experience has now become downright enjoyable. Connectix's Virtual PC and Insignia Solutions' SoftWindows, in tandem with powerful G3-based Power Macs and a fair amount of RAM, perform so well that there's really no reason to consider purchasing a PC. The beauty of these programs is that they really do run Windows on your Mac. File sharing, printing, even Microsoft Office and PC-only programs work without a hitch. The faster your computer, the better it works.

In cases where hardware is a must, you can easily add a PC compatibility card to your computer. Orange Micro's Windows compatibility cards, unlike emulation programs that make your Mac pretend to be a PC, place an actual PC inside of your Macintosh! The main advantage you gain is in pure speed. As good as emulation software is, it can never compare to how fast actual hardware is. Adding a PC card to your Mac comes with a price tag, though. While you can get Virtual PC or SoftWindows for around $150 dollars, a PC compatibility card will run somewhere between $600 and $700 once you get it decked out with enough RAM to run Windows 95/98. But, that's actually cheaper than buying a complete PC, and it definitely doesn't take up as much desk space. And hey, you still get to use your Mac.

Taming the Lies and Telling the Truth

It's a no-brainer. Your Mac can most definitely survive — or even excel — in a Windows-centric environment. Truth is, most of the arguments for why a Mac won't work in such an environment are nearly 15 years old, and they bear no resemblance to any current computing reality. So grab your iMac, plug it in to your network and get to work! MH



By David Weiss

Tools for Teams

What Is This Thing Called "Groupware"?

Especially for those who work at home, the old adage is quite true — no one is an island. That's because there's a whole slew of software out there specifically designed to help people work together.

Falling under the loose category of "groupware," this software includes not only the popular Internet applications for e-mail and newsgroups, but also applications that support group scheduling, group contact management, and collaborative work on the same file.

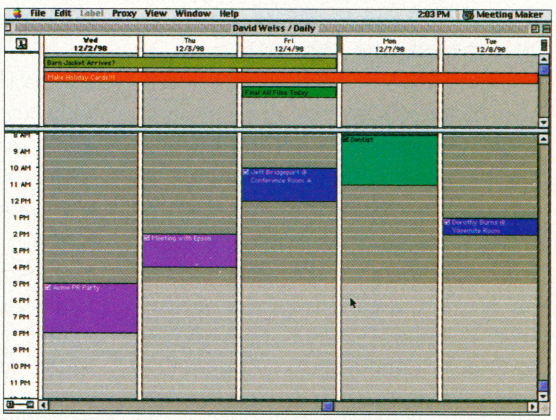
As a telecommuter, you may be called upon to join in on one of these collaborative groups, sometimes called "workgroups." And if you have management aspirations, you might want to be able to pull together such a team for a future project. Many groupware programs use a Windows NT server, which can accomodate both Mac and Windows clients (and UNIX, too, among others), but here, of course, we're going to concentrate on the Mac-only solutions.

It's Nice To Share

One of the biggest issues with sharing work is the portability of documents. Even if your fellow workers are all on Macs, they may not have all the same applications or the same fonts. Some documents, such as those from desktop publishing programs such as QuarkXPress and Adobe PageMaker, are not only big, but in the case of Quark, require that all illustration and photograph files be kept separate from the main document.

Adobe, tireless creators of publishing tools, created a format called Portable Document Format (PDF). Such a format is portable in the sense that anyone with the free utility Acrobat Reader can read them and have access to the same formatting, spacing, and pictures that the author intended. You've probably come across PDF files on the Web. They make good user manuals, because they preserve the proper relationship between pictures and text, and you can usually navigate through them quite easily by jumping to individual chapters or topics, or by searching for particular words. Acrobat Reader can be a bit finicky, however. If you don't have its two required fonts in your system, or if you're not running Adobe Type Manager, the program will quit immediately after you try to run it.

An advantage to PDF files is that they're quite small — even compared to word-processing files. Being able to transfer, open, and read the files is only half the battle, if you want to work together on the same file. Ambia Corporation's Re:Mark allows you to comment directly on PDF files and send them on to others. It works as a plug-in application with Adobe Acrobat Exchange, the program that you'll need to create and edit PDF files. With Re:Mark, not only can you circle text and make comments on a PDF file, but you can also highlight or cross out text, add a set of "rubber stamps," attach files, and even add voice annotations. You can also set up security privileges for the document. Re:Mark would be perfect for any group design project.

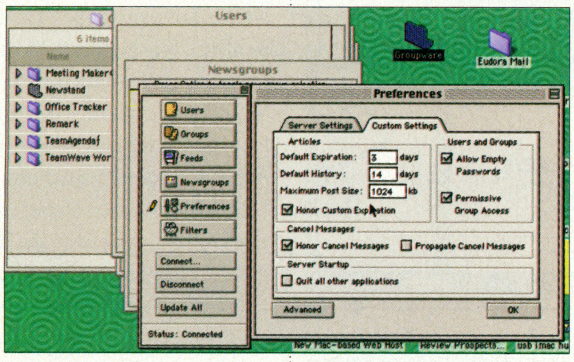


Meeting Maker uses a calendar interface, and it packs many features.

Right on Schedule

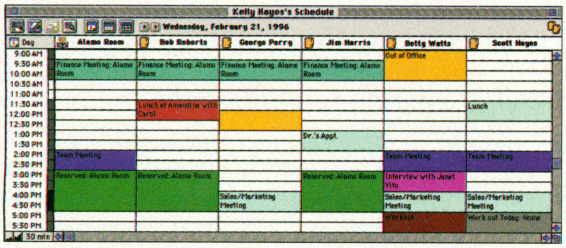
One of the biggest uses for groupware is group scheduling or project manage-

ment. If you've ever tried to arrange a meeting by telephone, you know how much of a hassle that can be and how much time it can take. It's especially frustrating because you're dependent on so many people to call you back. With group scheduling software, everyone's schedule is available to everyone else, and the software finds the available times, lets everyone know where to be and when, and sends alerts when there are conflicts in the schedule.



IntraNewstand makes it relatively easy to set up your own password-protected discussion groups.

On Technology's Meeting Maker is a scheduling product that works across multiple platforms. The central software resides on a server, and each participant views and modifies schedules by means of the client software. It's designed for large corporations — in fact, Apple uses it for its several thousand employees, but it's also capable of being used by a small group. And because it uses TCP/IP, the Internet-networking protocol, telecommuters can take advantage of it. Not only can they use the Meeting Maker client program to work with schedules, but they can also publish calendars on the Web, so that anyone with a browser can get access to it.



Office Tracker provides a simple way to keep in touch with everyone's schedule.

The program provides fairly speedy performance, according to Jim Wright, systems analyst at Apple, who set up Meeting Maker in the company. He says that even with a 28.8Kbps modem, it takes only seconds to update the server, even with many users logged on, so it's much faster than sending e-mail back and forth. Using the administrator tool, I found it was very easy to set up the server and create user accounts — the software has a clear, icon-based interface.

The client software is even more user friendly. It lets you add "banners," which stretch across the top of the calendar independent of particular times of day — something you can't do with many calendar applications. Managers can view a master schedule, showing everyone's schedule at once, in a kind of bar chart that shows who is free and who is busy during certain times. As far as maintenance goes, Wright says that Meeting Maker requires very little upkeep.

Another product for group scheduling and project management is TeamAgenda by Teamsoft, Inc. Like Meeting Maker, it uses a simple calendar interface, and it allows for calendars to be viewed and modified via the Web. It's easy to get around in the program, as it provides a row of handy buttons across the top of the screen and comes with an extensive online user manual, accessible via the Help menu. Nancy Fike, office manager at Callahan Creek, an advertising agency in Topeka, Kansas, uses TeamAgenda to help coordinate the efforts of a 40-member team. She says that she finds it extremely useful for scheduling meetings "without all the e-mails," and that in general it greatly enhances communication in the agency.

Office Tracker, from Milum, is another program for group scheduling, and it provides many of the same benefits of the other two described here. It lists all of the schedules for each participant side by side, which makes it very easy to read at a glance.

William Smits, a Macintosh consultant in Pleasant Hill, California, uses Office Tracker in conjunction with FileMaker Pro, to build custom applications for his small-business clients. One such project was a group scheduling program for a small driving school, which uses it to keep track of the busy activities of multiple instructors and students. Smits says the program was exactly what he needed. "It's very fast in scheduling lessons, and its search capabilities are extraordinary."

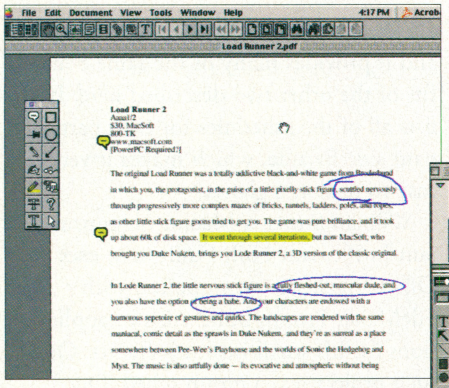
It is on the expensive side ($798), and unlike the Windows version, you can't purchase a license for fewer than 10 users, which makes it difficult to dive into — you can't buy low and scale up, as you can with the other products.

Groupware Links

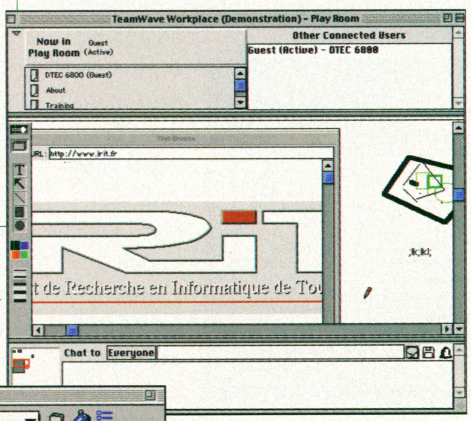
Usability First Groupware Page — An effort to share information about the computing world, including Internet trends. The Groupware page has an introduction to groupware, lists of software developers, and other groupware links. *www.usabilityfirst.com/groupware/*

Groupware FAQs (Frequently Asked Questions) — A generous offering from the Oxford University Library. Although it's a bit hard to weed through because of the huge amount of information, you might find the answer to your question here. *www.lib.ox.ac.uk/internet/news/faq/by_category.comp-groupware-faq.html*

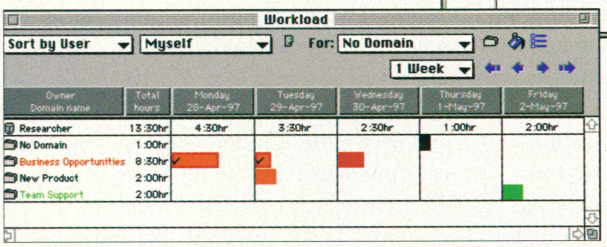
GroupLab — The home page for the University of Calgary's groupware research project. *www.cpsc.ucalgary.ca/projects/*



Re:Mark allows you to annotate PDF files, and even add sound clips.



TeamWave lets you share pictures and text in real time.



TeamAgenda has tools for extensive project management.

Tell Me about It

One way to set up a virtual team composed of distant members is by setting up your own discussion forums. Similar to Usenet newsgroups, which are accessible via the Internet, such forums are kept just between you and the people you choose to include. They're a great departure from the willy-nilly collection of e-mail that usually collects in one's in-box, because in a discussion group the messages are organized by topic. Also, the individual topics can be password-protected, to control participation. One program that makes this easy to set up is Imagina's IntraNewstand. And even though it keeps your discussions off the Internet, anyone with the client software, no matter what platform they're on, can join in on the discussion using TCP/IP.

The latest version of Netopia's Timbuktu Pro provides real-time conferencing between you and others, regardless of what platform your conferencees are using. (See Using Your Mac in a PC World, page 28, for more on traversing the platform chasm.) It also includes a "virtual whiteboard" — a collaborative drawing space that all participants can modify at the same time.

TeamWave's Workspace is a utility that's distributed over the Web. It provides a chat facility, a whiteboard, and a set of drawing and text tools. As in a chat milieu, you create different "rooms" in which to discuss various topics. Workspace has a good variety of features, but it does work slowly; even using a T1 line, scrolling the windows was sluggish. It also has a very rough-hewn look, reminiscent of early application design.

Join the Club

When you get tired of hunkering down and working alone and decide you want to be part of the group, you might want to investigate groupware. With shared calendars, timelines, and workspaces, you won't have to feel left out when you're working solo. MH

Groupware Product Information

Product	Company	Main Purpose	Price
Meeting Maker	On Technology 800-548-8871 www.on.com	Scheduling	$499, Server; $50 – $95 Client, depending on number or users
IntraNewstand	Imagina, Inc. 800-909-6537 www.imagina.com	Setting up your own Intranet	$250 per user, or $600 for a site license
Office Tracker	Milum Corporation 800-257-2120 www.milum.com	Scheduling	$795, 10-user pack
Re:Mark	Ambia Corporation 650-428-0160 www.ambia.com	Group document reviewing	$130 per person (Requires Adobe Acrobat, $295, and Acrobat Reader, Free)
TeamAgenda	Teamsoft, Inc. 888-985-8326 www.teamsoft.com	Scheduling	$100 per user, progressive discounts for more than five users
Workplace	TeamWare 403-861-7585 www.teamware.com	Virtual workspace	$75 per user, discounts for 10 or more

Sometimes *faking it* is better than the real thing





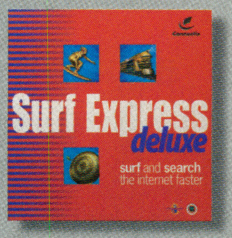
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With Connectix Virtual PC™, you can run the latest PC software including business, games, and home applications, on your Mac. Available with DOS®, Windows™ 95 and Windows 98.

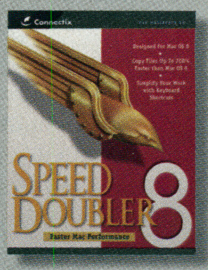
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By Jeff Battersby

Disk Jockeys

Norton Utilities vs. TechTool Pro vs. DiskWarrior

The infamous disk with the blinking question mark. The chilling Sad Mac at startup. The unexpected crash while creating an important document. An accidentally deleted file. Just the thought can strike fear into the bravest of hearts.

These problems and others can be solved by using a good disk utility program. Such programs dutifully seek out and destroy problems lurking in the files and hardware that are the heart and soul of your Macintosh. Micromat's TechTool Pro contains dozens of tools to test your hardware and files, but is it too much? Alsoft's DiskWarrior is effective, but only in one area. Is it worthwhile to consider this program? And how about Symantec's Norton Utilities? It's been around the longest and seems to have the best reputation. But does it still have what it takes to discover your system's deepest and darkest secrets?

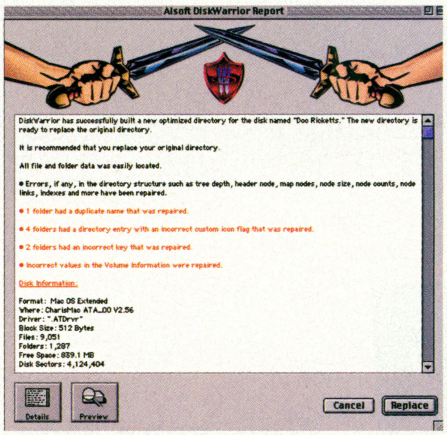
Tool of the Trade

You may be familiar with TechTool Pro because of the free version of TechTool that Micromat offers on the Web. What you may not know is just how comprehensive the full TechTool program actually is. Far from being a program that simply zaps your PRAM and rebuilds your desktop, TechTool Pro contains 28 software *and* hardware tests with which to prod and poke your Macintosh, from video and RAM tests to disk optimization and mouse and scanner tests.

The program offers three separate user modes: Simple insulates users from making any choices about which tests to run; Standard breaks the testing into four distinct categories — Drives, Chips, RAM, and Other — and allows the user to take some control over which tests to run; and Expert, the most complicated of the three user modes, allows you to have complete control over which of the 28 tests to run and lets you change specific parameters within each.

TechTool is extraordinarily customizable, allowing you to create "suites" of tests that can be loaded and run automatically with no intervention by the user. So, you can create a test that checks the integrity of your hard drive, optimizes the file structure, and optimizes the hard disk, and when everything's done, it shuts down your Macintosh. This feature is perfect for users who want to optimize their systems during off hours but that don't want to leave their systems running all night.

There was really only one problem I noticed using TechTool. Even though I was booting the program from the CD, as the manual suggested, the disk optimization feature was slow and didn't always complete its process. There was no explanation; the program just quit in the middle of optimizing the drive. I also had some trouble with the TechTool Protection feature, a program that saves drive information before your Macintosh shuts down. This ended up being a problem between the protection program and OS 8.5. Micromat has since posted a bug fix to its Website that resolves the problem. If you're using OS 8.5 you'll want to be sure that you're running version 2.1.1 or higher.



DiskWarrior cleans up your directory structure, which can greatly improve performance.

Fight Fire with Fire

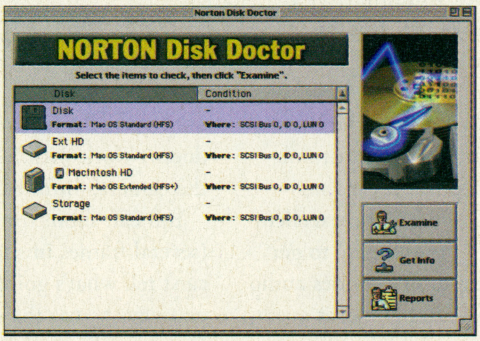
DiskWarrior is a one-trick pony, but oh what a trick! While the other utilities focus on everything from file optimization to guarding against crashes, DiskWarrior focuses strictly on your Macintosh's directory structure. The directory is a map maintained by the Mac OS that contains information about the location, size, name, and type of every file and folder on your hard disk. If the directory gets

hosed, well, so do you. If you can imagine being lost without a map and without anyone to ask for directions, that's what using your Mac with a damaged directory structure is like. In many cases system crashes and files that become unreadable over time are due to and exacerbated by problems with the information stored in the directory.

DiskWarrior not only verifies the directory structure and ensures that it's in good shape, but also optimizes the directory so that files can be found and accessed more quickly. To test this I ran and timed Apple's disk utility to check the integrity of my 2GB hard drive, which took a little over four minutes and found no errors. Next I ran DiskWarrior on my hard disk — which found a few small errors — and then reran and timed Apple's disk tool. This time the same test took only three minutes — about a 25% improvement over the original test.

The Doctor Is In

Norton Utilities 4.0 is most certainly the Grand Duke of disk utilities, having established a reputation as the preeminent cure for what ails your disk.



Norton Utilities has long been the standard for disk maintenance.

The program still contains all of the tools we've come to know and love: Crash Guard, Disk Saver, DiskDoctor, and SpeedDisk. In fact, what's new about version 4.0 is really only under the hood. Norton Utilities is now completely PowerPC native, which means that it's capable of taking full advantage of the Power Mac's speed capabilities. The program also supports the new HFS+ file format, which packs more data onto a disk. Symantec has also improved the the program's user interface, making it easier to see and understand what's taking place while the program is testing your hard drive. This feature will make the program more accessible to novice users, but veterans of the original program may miss Norton's busy cartoon doctor dutifully checking and double-checking cartoon images of your hard drive.

The program's reputation has been sullied recently by tales of ruined files due to problems with the way Norton Utilities handles non-Apple disk drives, but I didn't experience any problems in this area. However, I was a bit worried because the first time I restarted after using Norton, it took almost 10 minutes to reboot. In fact, I thought the system was frozen and so I restarted a second time because it hung for so long. The second start took just as long but, fortunately, the problem did not persist after that.

While Norton can't match the number of features available with TechTool Pro, Norton's SpeedDisk, which makes your hard disk run as quickly as possible, is still the best in the business. Optimization is fast and, unlike with TechTool, it normally completed the process without a hitch. For the security minded, Norton includes the Wipe Info utility, a security-erase program that, like the name implies, wipes all data from your hard drive. Unless you use such a tool, there's a strong chance that any data you delete by emptying the trash can be recovered by using special software — such as Norton's UnErase.

Disk Doctor won't fit on a floppy any more (TechTool never did). That's a problem for some, because Symantec recommends that you don't use Disk Doctor on your startup disk. Even though you can run it from the CD, you can't apply updates to it. So, to run the most current version, you must run it from a SuperDisk, Zip, or another hard drive. If you don't run the program from any of these, Norton may not be able to fix problems.



TechTool Pro offers a comprehensive set of test suites.

The Final Decision

TechTool Pro is the most comprehensive of the three, and stands head and shoulders above the rest, even though its disk optimization was a little dodgy. Norton Utilities remains a powerful program, but it's strictly a *disk* utility, wheras TechTool Pro is an all-around *Macintosh* utility. So while Norton is by far the most reknowned, it's no longer the best program. DiskWarrior is a unique program that is an excellent addition to either of the two other programs. Consider it a must-have utility to be used in conjunction with TechTool Pro or Norton Utilities. MH

rating 4½

TechTool Pro
$100, Micromat
800-829-6227
www.micromat.com

Excellent set of complex testing tools, allows you to create test suites

Disk optimization seemed buggy

rating 4

DiskWarrior
$70, Alsoft
800-257-6381
www.alsoft.com

Finds problems that other programs leave behind, optimizes directory structure

One-trick pony without a complete set of tools

rating 4

Norton Utilities
$100, Symantec
800-441-7234
www.symantec.com
PowerPC Required

Powerful, good set of tools, unsurpassed disk optimization

Not as complete a set of tools as TechTool Pro

ImageStyler



It's only obvious that Adobe — king of the printed page — should make a bid to become master of the Web domain. Over the last several months Adobe has updated one old standard — Adobe PageMill — and released two new Web graphics products, ImageReady and ImageStyler. The latter, Adobe's most recent release, is pure joy. ImageStyler promises to transform the artistically challenged into Web Picassos in a matter of moments. It succeeds.

Those familiar with Photoshop will be right at home with ImageStyler. Every tool and palette is virtually the same. The program also includes support for a multitude of Photoshop plug-ins and filters. Fortunately, you don't need any prior experience with any image-editing program to get a quick grip on how to use the product. An excellent manual and quick tutorial will have you creating everything from navigation bars to rollover buttons in a matter of moments.

Because ImageStyler is designed to be easy for non-artists, the program comes complete with hundreds of textures, shapes and styles that can be used in creating your Web graphics. A unique Make Alias command allows you to create several objects that will have the same properties. Making a texture or style change to one of the aliased objects immediately updates all of the other objects with the same changes. ImageStyler also makes it easy to create rollover buttons, which light up, display text, or otherwise change when you pass the mouse over them. Simply select the object that you want to use as a button. Open the JavaScript window. Add a new layer and change the way the object looks. ImageStyler handles all the Java scripting for you, and the new rollover button works beautifully.

My only disappointment with the entire program was its lack of animation tools, which are a prominent feature in ImageStyler's sister program ImageReady. In fact, Adobe ought to simply marry the two programs, making one all-in-one Web graphics tool, and safekeep its kingdom forever.

The Final Decision Adobe ImageStyler is a powerful tool that makes quick work of an otherwise tedious process. An excellent feature set and superior ease-of-use make it a top-notch program for both the novice and the professional.

— Jeff Battersby

rating 4½

$130, Adobe Systems
800-833-6687
www.adobe.com
PowerPC Required

Powerful tools, superior ease-of-use

Lacks animation tools

DC220

When Kodak introduced the DC220 digital camera, we ignored it, because it only offered Mac support via a PowerBook's PC Card slot. Now, however, Kodak is offering a USB driver so that the camera can download images to the iMac, as long as the iMac is running Mac OS 8.5.

The DC220 uses a CCD (charge coupled device) that has just over a million pixels; it shoots 1152 x 864 pixel resolution, and comes with an 8MB flash memory card for storage. The lens has a 2X motor zoom; you zoom in and out with a toggle switch on the camera back. The zoom is very fast, but doesn't really do much. You'd think this combo would get you really great pictures, but … no. Color balance is good, but the pictures are very fuzzy. I really don't know what they're doing with all those pixels.



The controls, however, are the best I've seen in a digital camera. A thumbwheel on the back, pushbuttons surrounding the LCD screen, and excellent menus in the LCD make it easy to get around. The camera even provides audio feedback — it beeps and bonks at everything you do (you can turn it off if you prefer). Reviewing pictures is very quick because the camera shows you a low-resolution preview first, then scrolls in a better image over it.

Transferring pictures to the iMac was very easy, and compared to other digital cameras with Mac serial interfaces, very fast. The Mac USB drivers were still in beta when we tested, but the benefits inherent with USB — speed and the ability to connect the camera while the computer is still on — are great for a digital camera. It seems odd that the DC220 only supports USB, because it does have what looks like a Mac serial output on the camera. Unfortunately, it doesn't work with Macs. Neither does the camera's infrared transmitter.

You can shoot time lapse or "burst" (several frames in succession), but you can't tell what's going on in the LCD; you have to use the optical viewfinder. For normal use, the LCD is crisp, clear, and bright, but is a bit slow-tracking.

The camera comes with an AC adapter, but doesn't include rechargeable batteries, and it really sucks up the juice.

The Final Decision You can't get better controls on an digital camera, but for the price, you can get a much better image and much better Mac support than you do with the DC220.

— Alan Stafford

rating 3

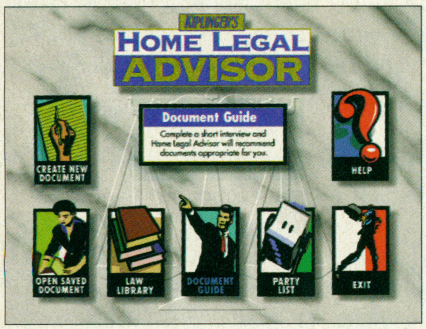
iMac Ready

$699, Kodak
800-235-6325
www.kodak.com
USB Required

Great controls/navigation, speedy USB

Fuzzy images, Mac support an afterthought

Kiplinger's Home Legal Advisor—1998 Edition



No doubt lawyers are getting a bad rap because of the long drawn out Starr investigation, and I won't remind you of the roots of all those lawyer jokes that keep going around. But legal issues affect us every day, and it's a good idea to have a convenient repository of basic legal information on hand. Kiplinger's Home Legal Advisor puts a small law library on your Mac.

Offerings include the Home Legal Guide, Kiplinger's Handbook of Personal Law, and Gilbert's Law Dictionary. You also get over 70 legal document templates for a number of uses. They cover such categories as wills, health and medical issues, contracts, real estate, finance, consumer issues, family issues, and powers of attorney.

There's not much in the way of a manual. Thank heavens the program is the ultimate in point and click simplicity. Each icon is labeled clearly. Just click here, point there, and you'll be able to learn the ropes with little fuss. In addition, the online legal information is searchable, so if you enter a few keywords you will soon have the information you want on your screen.

If you plan to use the online documents for making a will or other purposes, you can create a Party List that recalls your personal information. Then all you have to do is punch in the information in the blank spaces on the document on the program's simplified word processor screen. Then format your document and print it out.

The shortcomings are minor, really. The mini word-processor's format buttons aren't labeled, so you may have to resort to the printed cheat sheet to see what they do. The typeface used for the online documents may be a bit small for some. And be prepared to use your Mac's mouse for most functions — keyboard shortcuts are minimal.

The Final Decision Don't fire the family lawyer, yet. No software program is going to completely replace the need for professional legal advice. But if you need some basic, accurate legal information or want to make up some basic legal forms, you will find the Home Legal Advisor is handy to have around.

— Gene Steinberg

rating ●●●●

$20, Block Financial
800-438-4460
www.kiplinger.com

Easy to learn, quick performance, runs on older Macs, inexpensive

Small print on screen, minor screen refresh problems, few keyboard shortcuts

Media Cleaner Pro 3

The name is a little puzzling. To what does the word "Cleaner" refer? Media Cleaner takes your audio and video files (in QuickTime format) and not only compresses them, but also optimizes them for delivery over the Web; on CD-ROM, DVD, or standard hard drives; or for those of you with deep pockets, the DV format for high-end digital video.



You see, authoring and editing a video is only the beginning, especially if you're trying to publish on the web. Users with moderate connection speeds can't be expected to download gigantic files, so you need to encode them for delivery over the Internet, using a modem.

It's quite easy to use Media Cleaner's Settings Wizard, which asks a series of questions about your delivery medium, codec (compression-decompression algorithm), audio quality, movie size and frame rate. Then the software brings it home, so to speak, creating a new, optimized file suitable for framing (frames per second, that is). It may take a few tries till you get one you like; some algorithms are preferable to others, depending on whether your movie has a lot of motion, whether it's mostly talking heads, or whether it's animation. It's time-consuming to compress a file, especially if you change the size of a movie, so be prepared for that. You can see previews of settings if so desired.

An Advanced mode lets you tweak many more settings, and will let you do things like compress only the audio in a movie, alter bit depths, change the field order of interlaced footage and other esoteric operations. But this mode could spell trouble for newbies, as there are so many parameters to tweak. For most people the Settings Wizard mode will suffice, but it's great to have the extra horsepower in case you need it.

Media Cleaner thoughtfully includes a couple of nice editing features, such as automatic fades, or a handy cropping function (useful if you only want to show only a certain player in a baseball game, for example, without the rest of the field). Also, the package includes QuickTime 3 Pro — a $30 value.

The Final Decision Terran Interactive's Media Cleaner Pro is a mighty helpful application for anyone who's serious about putting digital video or audio on the Web, or even on other media like CD-ROM. If you can afford it, get it.

— John Poultney

rating ●●●●½

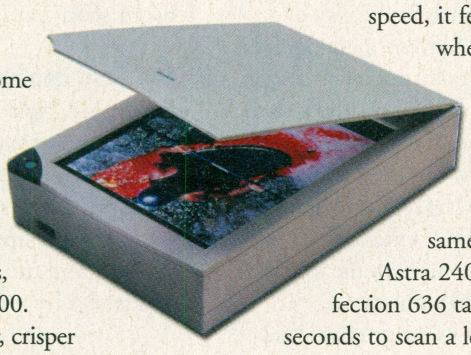
$399, Terran Interactive
800-577-3443
www.terran.com
PowerPC Required

Easy to learn, quick performance, runs on older Macs, comes with QuickTime Pro

Somewhat pricey

Perfection 636

The Epson Perfection 636 is a scanner aimed at those who hunger for higher resolution but aren't ready to say adios to large sums of money. It can accommodate up to letter-sized paper.



The 636 captures 36-bit color, which is comparable to that of some higher-priced flatbed scanners. But wheras many scanners in its price range can capture 1200 dpi without using software tricks, the 636 is capable of 2400. This translates to clearer, crisper details in photographs, and it provides the ability to blow your images up to much larger sizes without them appearing jagged and pixelly.

For an extra $99, you can add a transparency adapter, which gives you the ability to scan 35mm slides and other film formats. Using this add-on, I was able to produce some extremely vivid, clear, and bright scans from a slide. Unfortunately, the adapter is not hinged, so it's easy to inadvertently shift the adapter, possibly scratching the glass.

The 636 captures an impressive range of colors and details, compared to others in its price range. In terms of speed, it fell in right where one would expect it to; it was faster than Umax's Astra 1220S, but about the same speed as the Astra 2400S. The perfection 636 takes about 30 seconds to scan a letter-sized document at 300dpi.

One nifty feature of the 636 is a one-touch scanning button right on the scanner itself. Press the button and the scanning software starts up and gives you a preview.

The 636 also comes with an impressive bundle of software: two drivers, one for photos, and one for better results with scanning and recognizing text; Adobe PhotoDeluxe for manipulating photos; Presto! PageManager, an Epson scanning utility; Xerox TextBridge classic for optical character recognition (OCR); and Broderbund's PressWriter, for basic desktop publishing.

The Final Decision The Perfection 636 is a great little scanner. If you don't need the extra scanning area, and you're looking for a powerful scanner for desktop publishing or Web production, it will most likely be well worth the small investment to step up from one of the humbler scanners.

— David Weiss

rating 4½

$299, Epson
800-463-7766
www.epson.com
PowerPC Required

High resolution, quick, comes with a great bundle of software

Only accomodates letter-sized paper, optional adapter slides around

PageMill 3.0



Adobe PageMill has the distinction of being the first WYSIWYG-based web creation tool available for the Mac. But like some aging glamour star in desperate need of a few nips and tucks, PageMill has been left to languish for quite some time now. Adobe has finally released a new version of PageMill with several features guaranteed to keep current 2.0 users happy, but likely to be less than impressive to anyone searching for the latest in Web page development tools.

At first glance there's little difference between PageMill 2.0 and 3.0 — a few menu items have been added and the tool bar has been rearranged. But beneath the surface things are quite different. Topping off the list is the integration of a new and improved site manager. Using this tool you can easily import existing sites and begin editing them by double-clicking any item in the Site Manager's Finder-like windows. This tool also gives you an overview of your site as well as allowing you to add, delete and rename files. Renaming files via the site manager immediately updates links in any related files within the site.

Also new to v.3.0 is a refined Frame Editor. Creating frames is as simple as Option-dragging the edge of any editing window. And, no matter how many frames you create, the program's pop-up Frame Manager makes it simple to target frames with specific links.

PageMill also makes Java a snap. Just drag an applet from the Finder onto your page and you can view it in either Edit or Preview modes.

However, editing text in PageMill was surprisingly buggy. Text typed on the screen didn't appear until several seconds later — a real pain if you make a typing mistake. Also, you won't find the latest and greatest Web technology built-in to PageMill. Just standard tables, frames and text. If you want to use gee-whiz features like cascading stylesheets or if you want to place graphics in a specific position on your page, PageMill won't cut it.

The Final Decision PageMill is a perfect starting point for the complete Web neophyte or those interested only in creating basic Web pages. But if you want a tool that can stand toe-to-toe with your artistic ideals, you might have to take your business elsewhere.

— Jeff Battersby

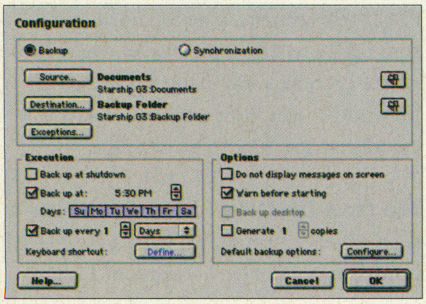
rating 4½

$90, Adobe Systems
800-833-6687
www.adobe.com

Excellent new site-management and frame creation tools

Page formatting limited to basic text, tables and frames, slow text input

Personal Backup Version 1.2.3



When you think of backing up, it might conjure up images of configuring some obscure software to do some strange magic to your files. ASD Software's Personal Backup takes the drudgery out of the task. Personal Backup is just perfect for the iMac, because it's capable of backing up to a networked server, but the software comes on a floppy disk. Fortunately, you can buy a copy online from the publisher's Website. The only really significant shortcoming is its lack of support for tape drives and other devices that don't mount volumes on your Mac's desktop.

Getting set up for backups usually takes just a couple of minutes. First you specify the source (the items you wish to back up) and the destination (where the backups go, including a networked server), then you specify when the backups occur. You can also set the program to synchronize the files on different Macs (such as your PowerBook and desktop models).

Installed on a PowerBook G3 with VST Technologies' Zip drive in the expansion bay, Personal Backup performed flawlessly. At the appointed time, it dutifully backed up the folders I selected, never missing a beat. And if you're really concerned about having the latest version available on your backup volume, you can do an "on demand" backup via the Personal Backup icon on the menu bar.

One incredibly useful tool is the Keystroke Recorder. When that's turned on, you can record every letter you type. So if your Mac crashes before you save, even though you lose all the formatting and layout of your document, you'll still be able to get back what's hardest to recreate — all your words.

The Final Decision If you've ever uttered the phrase, "I wish a had a backup" after a hard drive crash, you might want to take a look at Personal Backup. It's simple to use, it runs well, and it has some excellent misery-saving features.

— Gene Steinberg

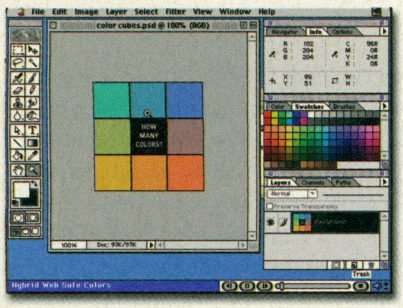
rating 4½

$50, ASD Software
909-624-2594
www.asdsoft.com

Ultra-simple installation; works on any Mac with System 7.0 or later

Doesn't support tape drives; no CD-ROM version

webSavant



If you're interested in becoming an overnight Webmaster, webSavant would like to help you. This four-CD tutorial set uses screen recordings and folksy, down-home narration to walk you through the process of using a comprehensive collection of Web-creation tools, from taking baby steps in HTML to customizing CGI scripts.

Although the scope of the product is ideal, what impressed me most was the well structured pace. After a brief introduction to the Internet and the Web, and defining basic terms like "browser" and "URL," webSavant explains how different browsers interpret HTML. After 20 minutes, the absolute neophyte will feel perfectly comfortable progressing to the next lesson, "Creating Your First Web Page." And step by step, webSavant will easily guide the beginner into much more advanced domains.

The narration is casual, and while this may seem like a liability, in webSavant it's very effective. The script is well written, and the virtual tutor obviously knows what he's doing. He improvises a little here and there, and everything he says is illustrated by his busy, animated cursor moving about the screen and manipulating windows and dialog boxes exactly as they would appear on your own Mac. So when he says "This tag over here," he highlights what he's talking about. It ends up feeling as though there's someone looking over your shoulder teaching you the tricks.

It also comes with software, such as GifBuilder, BBEdit Lite, and Mapedit, and although they are all free to download off the Web, it saves you lots of time while you're learning the ropes.

The interface gives you some neat controls. You can pause, rewind, or fast forward through the movies, something you can't do with most tutorial CD-ROMs. It also checks off the lessons as you complete them. Unfortunately, because it doesn't store any files on your hard disk, it doesn't remember where you left off when you start it up again. Also, there is no single Table of Contents for all four CDs. Each CD has it's own separate table of contents. There is a paper guide to all four CDs, but it would be nice if it installed a central router on your hard disk to guide you through the CDs.

The Final Decision If you want to take a crash course in Web authoring, you'd be hard pressed to find a better alternative than webSavant. Although it is a bit costly, it could end up being about the same as investing in multiple tutorial books or videos. And because the lessons are well-thought out and intelligently delivered, webSavant ends up offering a quite valuable educational package.

— David Weiss

rating 4½

$350, Savant Interactive, Inc.
773-975-2460
www.websavant.com

Comprehensive, well-paced, instructional movies

Expensive, doesn't save your place when you return, no unified lanchpad for the four CDs

Redneck Publisher



Now this is my kinda package — a cheap, simple desktop publishing program with a sense of humor. Whether or not you find the term "redneck" to be offensive, you'd be hard-pressed to use this program without a snicker, chuckle or even a guffaw. And you can make some dang useful documents while you're at it.

The software provides many of the basic features you'll find in QuarkXPress, Adobe PageMaker or other high-end packages, but at a tiny fraction of the cost. Of course you can't do everything you can with those packages — not by a long shot — but for many of us, the ability to place text and graphics in a document in an orderly fashion are all we really need.

When I first saw ads for Redneck Publisher I thought it was a collection of clip art. Indeed, living up to its name, the program has a heapin' helpin' of clip art that goes with the redneck theme. We're talking old pickup trucks on cinder blocks, moonshine stills, half-eaten dinners with dentures nearby, an old fly-swatter, a vulture wearing a baseball hat.

The program operates much like QuarkXPress, letting you create text and picture boxes, and shufflin' 'em around the page. Tutorials show you how to make greeting cards, parole hearing letters, and the like, and the software has built-in templates for cards, newsletters, calendars, labels (all the standard Avery varieties plus VHS tapes), and oversize documents like banners and posters.

As for text and graphics editing, pickin's are slim. You can stretch text or rotate it 90 degrees left or right, but that's about it. The program imports many graphics file types, including EPS, but if you want to edit them the resolution drops to 150 dpi. But so what? If you're used to spray-painting things on plywood to get your point across, this is a godsend for $30.

The Final Decision Redneck Publisher is an excellent program, with a fine — if borderline offensive — sense of humor and enough basic functions for a wide range of documents. With this software, you could easily create most of the documents you'd need to run a small, backwoods country town. Assuming the people in town can *read*, that is.

— John Poultney

rating 4 apples

Redneck Publisher
$30, Staz Software
800-348-2623

👍 **Hi-larious fun making documents of all sorts, tons of clip art, dirt cheap**

👎 **Limited text and graphics manipulation**

HotTEXT

If you want to add punch to your newsletter or Web page, one way to do it is by plunging into the world of 3D text. Vertigo gives you this power with HotTEXT, a plug-in that works with Adobe Photoshop.



With HotTEXT, you can zoom in, out, or all around your text to view it from any angle. You can control the amount of depth, stretch the letters, or tilt the letters forward or back. With precise control over kerning, you can fine-tune the spaces between individual letters. You can have the text run along a number of pre-set paths, so you can make the text run up over a "hill," or out in a bulge, or you can draw your own path. HotTEXT comes with dozens of beveling options for sculpting the edges of your text.

You can place up to five light sources around your text, and the lights can be any color you choose. But sometimes when I added more than one light, the additional lights didn't have any effect when placed in some locations.

HotTEXT gives you dozens of textures with which to render the surface of your text, such as clouds, sunflowers, or leopard skin. But although some were spiffy and clear, others were hard to recognize unless I zoomed in very close.

This magical tool does have a number of other drawbacks. Sometimes parts of letters would fail to hide parts of other letters that they were in front of. And Control-Dragging, listed in the pop-up help, doesn't work. Also, although it worked beautifully on several G3s, some effects were painfully slow on a 6100. But HotTEXT's biggest downside is that although it requires 16MB of RAM and recommends 32MB, I could not work with 300 dpi images on the iMac with 32MB, even with minimum extensions running and 16MB of virtual memory. So you'll need more than 32MB to work with printed images, which should be about 300 dpi to look their best.

The Final Decision If you're looking for the quick road to spiffy 3D text, and if you've got Photoshop and more than 32MB of RAM, HotTEXT is the ticket, despite its minor drawbacks. If you don't have more than 32MB of RAM, you can get the same stunning performance from HotTEXT, but you'll have to be satisfied with 72 dpi, which is perfect for the Web but pixelly on a laser printer.

— David Weiss

rating 3½ apples

$79, Vertigo Technology, Inc.
888-483-7844
www.vertigo3d.com
PowerPC Required

👍 **Fun, intuitive, Flexible 3D control**

👎 **Minor drawing bugs, some textures hard to recognize, requires more than the recommended RAM**

Gee, Three-Thirty-Three

Gazing Up at Apple's New Tower

By David Weiss

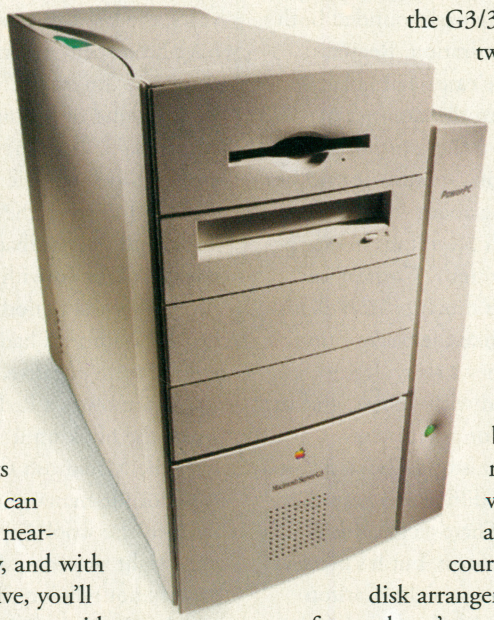
At the time of this writing, Apple's newest Power Mac G3 tower, with a processor running at 333MHz, is the fastest Mac on the block. Sure, you can soup them up to 400MHz using one of the fabled upgrade cards, but for an extra arm and a leg. How does the stock tower rate?

The Fixin's

Like its predecessors, this tower comes in a cabinet that makes it easy to open it up and swap components in and out, and that's one of the best features of towers. It has three RAM slots, of which one comes packed with a 128MB module. Unlike the original 300MHz tower that could only be ugraded to 384MB, you can plant up to 768MB into this one, if you use 256MB modules, which are now approved by Apple. It has a 9GB hard drive, which is gigantic, but it would have been even faster if they'd used two separate, smaller drives with a software RAID (Redundant Array of Independent Disks) solution, as they did with the original 300MHz model. All the same, it's an ultrawide SCSI drive, which will get you some fast transfer rates.

In many respects it is an improved version of the original 300MHz model, but in other ways, it's a slimmed down version. It only comes with 6MB of onboard video RAM instead of the 8MB on the other machine, which supports higher resolutions. Also, this version doesn't have a 100Base-T Ethernet card as the original did; it comes with 10Base-T, which is slower but still fairly standard. But you can always purchase these in a more advanced configuration, or as separate add-ons later on down the road when you need those features.

You can order a G3 tower in myriad configurations, listed out on the Apple Website with a calculator to determine the price for each. The one I tested also includes audio, video, and S-video ports, which makes it the defacto Mac of choice for creating your own movies. This is a wise addition for this particular machine — with its speedy processor it can capture video with near-professional quality, and with its colossal hard drive, you'll have a place to store your video once you do.



It has three PCI slots, but one of them is taken up with a card that supports the ultrawide SCSI drive. It also has two expansion bays, which can accommodate removable storage drives such as Zip or Jaz, or a hard drive.

On Your Mark, Get Set ...

As one would expect, using this Mac was extremely pleasant, as most tasks felt more like cutting through butter than slogging through mud. Take out a stopwatch and time how long it takes your computer to open up Microsoft Word 98 to a new blank document. Older machines take about 15 seconds to do this; the iMac does it in about 9 seconds. On this machine, it took a mere 2 seconds. I found similar results with other tasks. Rotating a 45MB Photoshop file 23 degrees, an extremely processor-intensive task, took 44 seconds compared to the iMac's 2 minutes 23 seconds. However, the original G3/300 took a bit less, 40 seconds, to do the same task, mainly because the G3/300 we tested had two ultrawide drives married in a RAID package. When there's swapping of big files to be done, the disk performance provided by such an arrangement can't be matched by a single, ordinary drive, even a very fast one such as this. But, of course, the double-disk arrangement with RAID software doesn't come cheap.

The Final Decision Using this Mac was my most pleasant computer experience, and it's a little more than half the price of the original 300MHz power tower. If you want to plunge into the world of the high-end Mac, this might be the one. This would make an excellent video-editing machine, file server, graphic design workstation, or all-around home speedster. MH

rating 🍎🍎🍎🍎

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👍 **Wickedly fast processor, huge hard drive**

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Apple: The Condensed Version

By Alan Stafford

Jim Carlton's best-selling book of 1997, *Apple: The Inside Story of Intrigue, Egomania, and Business Blunders*, received a 1.01 upgrade for its new soft-cover release. *MacHome* turned the tables on Mr. Carlton, a *Wall Street Journal* reporter, by interviewing him just prior to the release.

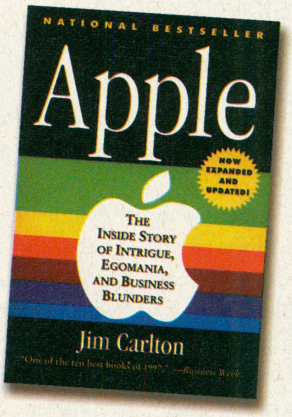
"It's a whole new company now," Carlton said as we sat down. After reading his book, the remark sounded both like regret and admiration. Regret, because the new release's extra chapter takes the saga up to the summer of 1998 — just before the iMac's stunning sales success. Admiration, because he said he is impressed by the about-face Apple has accomplished with Steve Jobs in charge. "A flawless turnaround," Carlton said.

The book covers much of Apple's history, and it reads like the background information in a news story. It's no novel, but it's filled with quotes, and the facts are dramatic on their own.

When writing a historical book about a large company, it's difficult to keep the timeline straight. There's a great deal of jumping back and forth, but it's necessary to keep the subplots straight. Carlton repeats names and details constantly, but if he didn't, you'd need Post-It notes to keep track of the players and events.

Apple fans may take issue with Carlton's damning tone, though. The book pounds Apple and its various players for screwup after screwup, but hindsight is 20/20, right? After reading the book, I couldn't recall anything that sounded like an unqualified success — even Apple's good moves came off sounding like accidents. In all those years, didn't Apple make any brilliant moves? Carlton recalled one: Apple's going after the education market early on. "[Apple operated] like a tobacco company: Get the kids hooked early." But Carlton won't let Apple skate for long: "I don't think they're out of the woods long-term," he said.

Carlton has been been a reporter for more than 20 years, the last five of which have been spent covering Apple for the *Journal*. "I went in kind of intimidated," he said. "I hadn't covered tech before." He took a year off to write the book, and the hardback release coincided with Apple's darkest period. "A lot of the stories I had written were negative," he confirmed.



Carlton owns a Performa 6320 — he wrote the book on it — and he says he likes the Macintosh OS because of its superior file management. But he's not a dyed-in-the-wool Apple supporter or, as one might suspect, a former fan. "For me, it's not religion at all," he said. So which camp is he in? "I'm literally in both camps," he insists, right where a reporter should be.

Despite the pall it casts over Apple's history, the book is fascinating. Carlton interviewed hundreds of people for the book, and the depth is incredible. It's packed with all the important events of the past twenty years and the hows and whys behind them, in painstaking (and pain-causing) detail. You hear what happened from the people who were making the decisions and suffering the consequences. Former Apple CEOs John Sculley and Gilbert Amelio, as well as Microsoft chairman Bill Gates, are quoted extensively. A few major figures refused to be interviewed — former CEO Michael Spindler is an obvious omission — but Carlton does a great job of getting the story from other sources. Even if you've followed Apple for years, you'll discover things you never knew.

However, the new last chapter doesn't have the same depth of research that the earlier chapters do; it seems more of a view from the outside looking in. But then, that's how it is for everyone in the press these days: Apple isn't talking as much as it once did.

Gates is portrayed in the book as a brilliant businessman and mostly as a good guy in Apple's history rather than the predatory thief that die-hard Apple supporters view him as. "If Apple had only listened to Gates," Carlton seems to be saying at many points. So who's most to blame for Apple's troubles? "First and foremost, [Apple's] board of directors," Carlton said, declaring that the board wrongly focused on short-term profits and the company's stock price.

So after compiling one of the most complete and compelling accounts of Apple and witnessing Apple's recent comeback, what does Carlton think the future holds for the company? "There's so much to be hopeful about," he said, but he added, "My concern is more ten years from now." That's how his book reads — every parade gets rained on. But this is one parade you'll want to watch to the end. MH

rating 4 apples

Apple: The Inside Story of Intrigue, Egomania, and Business Blunders
by Jim Carlton
$16, HarperBusiness; ISBN: 0887309658
212-207-7000

Fascinating, comprehensive look at Apple

Overly depressing tone

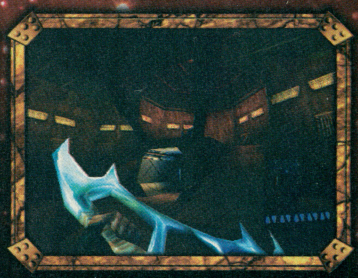
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By John Poultney

Stream On!

Introducing the Great Web Hope

What if the middle-aged guy with the primer-gray Ford Granada who drops off your paper early in the morning didn't drop off the entire paper, but rather brought one paragraph at a time, returning to your door with a new one every few seconds until you'd read the whole paper? Would you call the cops, or would you consider it an innovative delivery method?

If you chose the latter, you're thinking on the same page as the streaming media crowd. You see, this technology is on the verge of transforming the Internet from a vast repository of data to a truly interactive entertainment and information machine. Once this happens, TV is as good as obsolete. Or at very least, challenged in a whole new way.

Streaming, simply put, is a delivery method for digitized information. It entails a server that sends a stream of data on request to a user's computer, where it is reassembled into a coherent file. But the twist is the user can start looking at the file before it is completely downloaded, even if it's a video or audio file. For standard reading of text or viewing static images, streaming is hardly necessary — text will appear almost instantly over most connections, even relatively low-speed modems, and images usually don't take much longer unless they're very detailed.

But when you get into the realm of audio and video, things change dramatically. Let's deconstruct a video stream. On the one hand, you have your video, consisting of a set of constantly changing images. On the other you have your audio — a sound track matched to the video. Each one of these components can be considered information, in that they can be digitized — translated into a numerical stream of information. This information comprises digital video or digital audio files (to lessen confusion, let's assume digital video files include both video and audio — they normally do, though the components can be separated), suitable for transfer over networks, and then translated into usable sounds and images by your computer on demand.



Time Is on My Side

Apple has been a pioneer in the digital video field, having introduced QuickTime back in 1991 as a method to play back digitized video on Macs, and later on PCs. The usefulness of the technology did not escape anyone. QuickTime became one of Apple's most influential products, and the company found the technology to be in high demand. In many circles, the terms QuickTime and digital video are now interchangeable. Over the years, Apple has beefed up QuickTime to include 3D and virtual reality images, and video professionals routinely do astonishing things with the technology.

QuickTime has become much more potent than its first iteration, and it has been adopted by many companies.

But one thing immediately became apparent — QuickTime files are big! How big? Well, one minute of digital video typically takes up about 10MB, even if digitized at a small size in moderate quality. Higher quality, larger files can and do take up much more space. Audio? Well, remember we said that most QuickTime files incorporate both audio and video, but there are tons of circumstances where audio-only files are warranted, and digital audio at CD-quality takes up 5MB per minute in

mono, and twice that for stereo.

These file sizes are okay if you're using a file locally — say on your own hard drive. But try to send 'em through a network and you're simply asking for trouble. Now consider the mayhem that would surely ensue when home users, armed only with puny civilian modems reaching perhaps 33.6 Kbps or 56Kbps, attempt to download such large files.

When the Internet first became known as a killer multimedia-distribution engine, a few forward-thinking types tried things like releasing the a new Aerosmith song over the net. Admirable, but home users were stymied, nay, stultified by their slow connections (at the time the popular modem standard was 14.4Kbps), which required more than an hour to download a short song. And if there were any errors during the download, the file was unusable.

With streaming media, the whole picture changes. Like the hyperactive paper-delivery guy we described earlier, streaming brings chunks of data to your computer only as fast as it can deal with processing them. Hence, you can start listening to a Web-distributed sports report or watch a preview of the upcoming National Geographic special on zombies, without needing to wait for the whole file to download.

Pressure from All Sides

Such scenarios portend that tomorrow's Internet will give TV and radio real competition, but there are two thorny issues in the way before that can happen — data compression and bandwidth. Neither make for the sexiest reading, but they are undeniably linked to the sexiest technology.

Data compression is the key technology for streaming media to succeed. As we mentioned, the sheer size of digital media files make them unsuitable for transferring over all but the fastest networks. Data compression entails encoding the original files with various types of codecs (compression-decompression algorithms), which perform mathematical wizardry to make files tiny, and therefore ready for a quick, painless download.

There are many flavors of codecs for video, audio, and general use; two of the more familiar are Cinepak and Apple Video, used in QuickTime applications such as Adobe Premiere to shrink files. Streaming media, however, has its own needs, and for this a number of lesser-known, and even secret (read: proprietary) codecs have cropped up recently.

The most significant news here is the Sorenson Video codec, released by a company called Sorenson Vision and included with QuickTime 3. This codec is getting rave reviews in media circles for its ability to create high-quality video playback in relatively low-bitrate files (bitrate refers to the speed at which a media file may be transferred and still provide adequate quality; it's usually the same as a user's connection speed, like 33.6- or 56Kbps). Real Networks' RealPlayer's encoder, as well as such third-party utilities as Terran Interactive's excellent Media Cleaner Pro, let you select various connection rates when preparing your files for streaming.

Don't Go Changin'

Streaming technology, most successfully demonstrated in RealPlayer software, is catching on in many new camps. RealPlayer, now at version 5.0 of its Mac software and working on a new generation called G2, is the category leader. And though Microsoft looks to be a strong contender (at least on the Windows side — more on this in a moment) with its Media Player — QuickTime looms large in streaming's future.

You can start listening to a Web-distributed sports report or watch a preview of the upcoming National Geographic special on zombies, without needing to wait for the whole file to download.

QuickTime itself includes some streaming capabilities in version 3.0 (see sidebar, Perchance to Stream), and of this writing it is said that Apple is on the verge of announcing version 3.5, with much more streaming functionality. While Apple does not comment on unannounced products, it has said that it plans to implement streaming into QuickTime and demonstrated this capability last May.

As a large portion of multimedia content originates as QuickTime on the Mac platform, authors and artists need to undertake the sometimes odious step of encoding a file (changing it from QuickTime to the RealPlayer format, for example) before it can be used for streaming. With streaming built in to QuickTime, the file type would never have to change beyond the basic compression.

Player's Club

The two main players in streaming media are Real Networks, which makes the ubiquitous RealPlayer, and Microsoft, which makes a technology called Media Player (this name is supplanting the software's previous "NetShow" moniker).

Media Player appears to be much more advanced on the Windows side than on the Mac, and that's to be expected. The software is available for most flavors of Windows, but only in a beta version for the Mac as of this writing. What's more, Microsoft's Gary Schare, lead product manager for Windows Media Technologies, says the Mac version will only play back file types of the Advanced Streaming Format (ASF, a proposed streaming media standard backed by Microsoft, Intel, Adobe, and Vivo Software) persuasion, while the Windows version supports QuickTime; Real; .AVI; .WAV; MPEG 1, 2, and 3; MIDI; and other multimedia file types. It also supports embedded URLs (designed so users can click and go to a URL during or after a movie's playback), letting users jump to any point in a file's playback, even if the file hasn't loaded yet.

Perchance to Stream

What's streaming, again? It's merely the continuous delivery of a media file from a server to a local system, while the local system continues playing the content as it is received.

Currently, QuickTime's includes a feature called FastStart that enables streaming. This tells a system when it has downloaded enough of a file to ensure that, if it starts playing now, the rate of data transmission will let the system play the file in its entirety, without any pauses to download more data.

This approach works well, but can cause long waits before larger files begin playing. Real Networks' approach uses buffering, or periodic updates to a memory cache, to supply data needed to play files. While this method can start playback faster, it can also cause annoying fits and starts if your modem can't keep up with the data stream.

Through the adoption of various protocols that do such things as minimizing error-correction requests (which can really slow things down in streaming scenarios), Apple's next version of QuickTime will reportedly be much better at streaming. In such a world, developers would have precious little reason to leave the QuickTime space, and everything from creation to transmission to consumption could take place entirely on Macs. Huzzah!

One more thing. Streaming media requires a specialized server. It doesn't work too well just putting files on a standard server — there need to be mechanisms in place to assure efficient give and take between the server and the client. Thus far the only servers available are for RealPlayer and Microsoft's Media Player on Windows. Apple will reportedly supply a bare-bones server for the next QuickTime; various third parties are expected to develop more full-featured ones.

Why are Mac users getting the short shrift here? Microsoft's Schare says it comes down to two things: lack of underlying technology (QuickTime doesn't have support for Microsoft's DirectX architecture) and a dearth of reciprocal support vis a vis Windows and Macintosh technologies. "We're not in the business of providing a universal player for the Mac — that's Apple's job," he said. "But we do want to make sure Mac users can run most of the streaming content on the Web. We had hoped Apple would include support for ASF in QuickTime, but that hasn't happened yet."

The current beta version of Media Player for the Mac is rough at best. Schare acknowledged that there have been reports of incompatibilities, though no direct cause has been identified. Microsoft said the beta will be updated in another couple of months, and that a final version should be available towards mid 1999.

Apple's next version of QuickTime will reportedly be much better at streaming. Developers would have little reason to leave the QuickTime space, and everything from creation to transmission could take place entirely on Macs.

It would seem that this unfinished program doesn't pose much of a threat to more mature technologies such as RealPlayer or QuickTime, but Microsoft tends to have far-reaching influence, both in the consumer market and in developer circles. What will this mean to Mac users? Well, if Media Player catches on in the Windows world, there will likely be many more video files out there in ASF format. But there will likely be just as many — or more — in QuickTime.

If the beta version I looked at is any indication, Media Player won't turn many heads on the Mac side. It crashed my machine and those of several others I spoke to while preparing this report. To be fair, it is a beta, but the software is so rough and is missing so many features that it's rather surprising it's been made public.

"It's embarrassing they even released it," said Ben Waggoner, chief technologist for Journeyman Digital in Portland, Oregon. "It won't run reliably, and the documentation says it can't synchronize sound and video, and that most of the controls are disabled. NetShow (Media Player) can author on a Mac, and you can't hardly look at it on a Mac." Indeed, Microsoft says the server tools for Media Player will be part of the upcoming Windows 2000 package, though cross-platform authoring tools will support the ASF file type.

Paul Lundahl, creative director at eMotion studios in Sausalito, California, says Microsoft's entrance is a little late in the game. "Look at what end-users are likely to have — QuickTime and RealPlayer. For content creators like us, it makes sense to stay with those technologies, especially once streaming comes to QuickTime. Microsoft has changed their approach so many times — AVI, then DirectShow, then NetShow, now Media Player — and every time it's a new set of tools, you have to start over again. For the development community, you need to be confident that things will progress logically like they have in QuickTime."

However the battle shakes out, it does appear that QuickTime will have a large presence in streaming media. Nels Johnson, a columnist for Miller Freeman's DV (digital video) magazine and author of several books on digital video, says, "Apple has earned the right to say it has a streaming solution. The next big step will be true video-on-demand, where users can see any video they choose, starting at any point." And until we all have T1 lines in our living rooms, he says, streaming features largely in the future.

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By David Weiss

Encyclopedia Electronica

Worlds of Knowledge on CD-ROM

It's true that there's a certain majesty in a row of leather-bound volumes stretching across the shelf. But don't dismiss the power of CD-ROM encyclopedias. They're slim, they're cheap, and they have other advantages as well.

With an electronic encyclopedia, it takes just a second to search through the entire set of articles for the occurence of one single word or concept — that's just not possible with books. CD encyclopedias also pack the power of multimedia to reinforce the written word with animation, movies, and sound.

The two most popular titles are the *Encyclopedia Britannica* and *Grolier Multimedia Encyclopedia*, and both have been revised for 1999. Another popular title, Microsoft's *Encarta*, which was not revised for 1999, was reviewed in our December 1997 issue. Another encyclopedia I'm including here is a new one from Montreal, Canada, called the *InfoHighway Encyclopedia*, which covers, as one might expect from the title, the Internet.

Grolier

The *Grolier Encyclopedia* comes in two flavors — regular and deluxe. Both contain 36,000 articles, but the deluxe version has additional movies and graphics, as well as access to 22,000 additional articles on the Web, in the *Encyclopedia Americana* and in the *New Book of Knowledge* sites. The regular version comes on one CD-ROM, while the deluxe version needs two. I tried out the deluxe version.

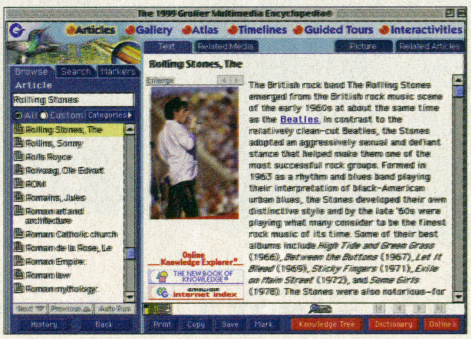
Grolier's main window gives you a generous number of features. You can easily print, copy, and save articles, or create your own set of articles to call up at will. Grolier also provides a speech button, so young readers can have selected text read aloud.

In general, the articles tend to be a bit shorter and more general than the articles you'll find in the *Britannica* CD. And *Grolier*'s list of Related Articles can sometimes be a bit on the superficial side. For example, in the article on the Monroe Doctrine, *Grolier*'s Related Articles include: Monroe Doctrine (document); Monroe, James; Monroe Doctrine; and President of the United States. *Britannica*'s Monroe Doctrine article has links to all of these topics, as well as to related articles covering such subjects as "The Era of Good Feelings," the Missouri Compromise, and foreign policy in general terms. Other topics gave similar results.

However, *Grolier* has an Atlas section that's fairly comprehensive. It also uses a fun interface that lets you zoom in and out all around the globe.

It also has a Timeline section, which organizes articles in a chronological graph; Guided Tours, which compiles articles that share similar themes; and an Interactivities section, which explores topics using multimedia.

The Interactivities are a little bit less interactive than they sound. They are illustrated articles that you navigate through by clicking on buttons and images. The one on the human body is interesting, since you can move around the human body by clicking on pictures. It also has some nifty 3D animations. But the information was a bit thin.



The Grolier Encyclopedia is packed with features.

The *Grolier Encyclopedia* is also a bit difficult to navigate. Some of the tabs are mislabeled, and you often have to shrink the current window just to move forward.

Britannica

The *Britannica* also comes in two versions, the Standard and Multimedia editions. Both offer the same text as the venerable 32-volume bound edition, which amounts to a staggering 73,000 articles. Both provide 30,000 links in those articles to additional articles on the Web. It

was the more sober Standard version that I was able to review.

The CD uses Netscape Navigator as its interface, which makes for a smooth transition to the Web when you want to extend your searches, but people who prefer to use Microsoft's Internet Explorer might find it cumbersome to work with two browsers or switch to an unfamiliar one. The opening screen is very elegant in its simplicity; it's centered around a text field in which you're prompted to ask *Britannica* a question in natural language, and I was impressed by the search engine's "intelligence." The query, "Who invented the microscope?" delivered much different results than the query "microscope" — and at the top of the list for the first query was the answer I was looking for (three people get the credit: Hans Jansen, his son Zacharias, and Hans Lippershey).

The Standard Edition of the *Britannica* has much less in the way of whistles and bells than the *Grolier*. But in terms of the number of articles and the depth, *Britannica* provides more than the *Grolier* in terms of content. When navigating through, however, you're pretty much left alone with your search engine. But the *Britannica* does have a section called Spectrum, a hierarchical organization of articles under ten categories: Matter and Energy, Life on Earth, the Earth, Human Life, Human Society, Art, Religion, Technology, The History of Mankind, and the Branches of Knowledge. And like the *Grolier*, the *Britannica* has a good electronic atlas.

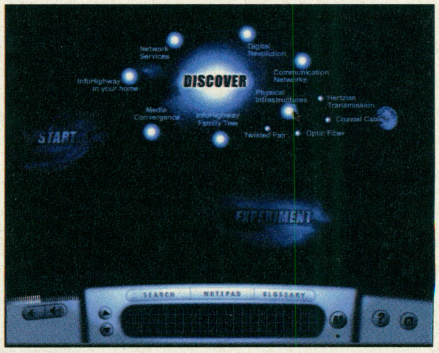


Brittanica offers the same text as the original bound version.

InfoHighway

You navigate through the *InfoHighway Encyclopedia* by means of a spaceship-like control panel. Topics appear before you as planets, and when you hover over them with your mouse, they break out into smaller planets that are subtopics, all while making a techno sound effect. A steady pulse throbs in the background.

The main "constellations" are Discover and Experiment, and while Discover gives you the who, where, what, and why, Experiment gives you the how. The main control panel also provides you with a search feature and a glossary. You can also type notes in a tiny word processor, which is a handy feature, since you can't access other programs while the *InfoHighway* is running.



Cruise the InfoHighway with its Spaceship-like interface.

Most of the content is delivered by voice-over, in the form of movies, and the amount of detailed information is kept to a minimum. Because of this, it feels a bit more like a series of infomercials than an encyclopedia. It depends on what you're looking for, however. If you want a light introduction to various Internet-related topics, the *InfoHighway* will provide it for you. But if you want more detailed information, you're likely to be left feeling a bit undernourished. The information on "groupware" — software designed so that multiple people can work on the same project — was much less detailed than the information in both *Grolier* and *Britannica*. The Experiment section tells you how to use Web browsers, e-mail clients, and newsgroups, and offers a few tutorials that give you instructions as well as feedback when you click on the wrong thing. The how-to information is very simple, covering the basics of Netscape Navigator as it is used for Web browsing, e-mail, and newsgroups. Some might find it a bit too simple. After going through the tutorial on how to create a Web page, I still wouldn't feel equipped to get started unless I had recieved information from other sources. But again, if you want a simplistic, surface feel for what's involved, you might find it useful.

The *InfoHighway* has one or two bumps. The main help screen simply lists technical requirements, and if you can't meet them, you probably couldn't get to the screen in the first place. Also, they're in French, and one of the major headings is called "Advices" — so it wasn't a totally smooth translation from French.

A Questin' for Knowledge

InfoHighway might be good in a library for people who have never used a computer before to get a broad introduction. But if you've already got a computer at home, you probably know most of the information contained therein, and you can get a lot out of online resources. If you want good hearty content, go *Britannica*. But *Grolier*, though its articles are a bit less substantial, both in numbers and in depth, does have a fun, engaging product that some might prefer. MH

Encyclopedia Britannica CD 99 Standard Edition

$59, Encyclopedia Britannica
800-747-8503, www.eb.com

Comprehensive, voluminous, easy to navigate

Must use Netscape

Grolier Multimedia Encyclopedia

$60, Grolier Interactive
800-217-1495, www.grolier.com

Full featured; lots of pictures, movies, and sounds; inexpensive

Fewer articles, some articles lack depth, difficult to navigate in places

The InfoHighway Encyclopedia

$50, Concept Action Multimedia
800-645-3739, www.concept-action.com

Cool interface, instructive tutorials

Superficial content, a few rough spots

My So-Called Net Life



"Girls enjoy reading. Girls enjoy the Internet and educational software if the content suits them. Sarah pulls all three together," says Anna Murray, author of the novel Sarah's Page, and president of e*media, which created the corresponding Website. Murray goes on to say that "Anyone who says there is a technology gap between boys and girls hasn't talked to your average twelve-year-old girl lately. Sarah sends e-mail, builds her own Websites, and is completely at ease with technology."

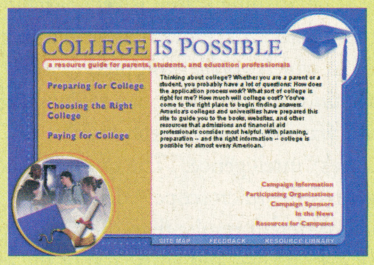
The good news is that Sarah talks the way real kids talk, at least, that is, kids from New York, such as the following fictional Email excerpt: "It looked like my arm had been sucked into a printing press or something, because my shirt was totally soaked with blood. So I'm thinking we're going to walk in there and they're going to move into action — doctors running around, hooking me up to monitors, wheeling me away at a dead run. But NO."

e*media will also release Sarah's Web Page Builder, a step-by-step guide for kids aged eight to fourteen to building their own pages, which can then be posted on the Sarah site.

*e*media, www.sarahspage.com*

A Clearer Path to College

$60 billion in aid is out there to help students afford the college of their choice. Information and advice on how to apply for outside monies, college



preparation, and choices is now available from the Coalition of America's Colleges and Universities Website. The site has links to books, Websites and other resources on college admissions and the confusing world of financial aid.

College is Possible, www.collegeis possible.com

The Coming of Age of Carmen Sandiego



On her 15th birthday/anniversary of the series, Carmen Sandiego, international criminal mastermind and defacto geography instructor, is undergoing a makeover. The signature red fedora is staying, but Carmen's new look will include separate day and night ensembles, and a sleeker, more modern look. And, in addition to having the number-one show for kids aged six to eleven, Carmen is set to star in her own motion picture this year.

Broderbund, 617-761-3000, www.broderbund.com

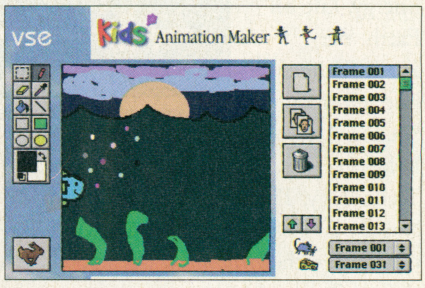
Tween Ten and Twelve

Tweens — kids aged from ten to twelve — are traditionally a hard market for software manufacturers to reach. Over the last two quarters, however, a deluge of products have appeared, attempting to tap and dominate that market: Purple Moon Software and Lucas Learning have both attempted to hit that button, and now, Knowledge Adventure is throwing their hat into the tween ring with *Jumpstart Adventures 6th Grade - Mission EarthQuest*. Kids embark on a mission to preserve the planet, preventing deforestation, extinction of endangered species, and the destruction of famous world monuments, while building language math, history, geography, and science skills.

Knowledge Adventure, $30, 800-542-4240, www.knowledgeadventure.com, or www.jumpstart.com

The iMac gets into Software

"We couldn't resist designing an application that fits perfectly well into the iMac," says Johannes Selbach of German software manufac-



turer Voget Selbach Entertainment. The company's *Kids Animation Maker* iEdition has icons, pictures and text that fit in with the iMac color/design scheme. The ($18) shareware program allows kids to create animated cartoons via an easy-to-use interface, hopefully leading the way to a planet with better designers.

VSE, www.vse-online.com

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Rockett's Adventure Maker

$30, Purple Moon
888-278-7753
www.purple-moon.com
Ages 8 to 12

In middle school, thirteen other girls and I made up what Rockett Movado would call the trendy clique. What we had in common was the ability to feign confidence — to seem in control of our often confusing environment. Had we a slogan, it might have been Conformity Saves — we donned Gear bags and string barrettes, but spurned corduroys and brassieres, lest we be perceived uncool.

Because Purple Moon, the company responsible for the *Rockett* series of CD-ROMS, has spent years researching girls between the ages of seven and twelve, it knows that getting a bad haircut and having the wrong opinion were two of my biggest fears back then. It also knows such fears are inhibiting. so in its newest CD-ROM, *Rockett's Adventure Maker*, the company invites girls to experiment with identity in a safe place.



Adventure Maker encourages creativity through character development. First, with the Make a Friend feature, you can choose from a variety of body types, faces, hairdos, skin tones, and outfits, and invent your own animated characters. Whether inspired by friends from school or 100% concoction, it is fun to fashion preteens of all sorts. These characters can be of any race and can look and dress exactly as you want them. Turn to the Yearbook section to fill in their likes and dislikes, future careers, and best friends.

By the time you are ready to Make an Adventure, you will likely already know which girls will be friends and which might have conflicts. It is up to you to decide whom your characters will meet from the Purple Moon gang and what will happen next. For the setting, you can use Rockett series scene starters or create a new adventure of your own making.

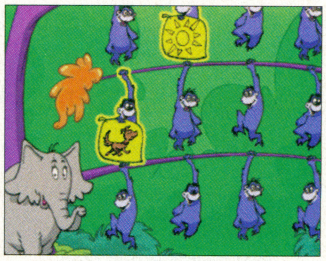
Though I had some difficulties dragging props from one frame to another and found the size of the speech bubbles limiting, my experiences in Whistling Pines Junior High and in the homes of friends I made there were quite engaging. Even parents will benefit from returning to junior high, if only for one, self-assured day.

— Amy Shafron

Dr. Seuss Preschool

$20, Broderbund
800-567-2610
www.broderbund.com
Ages 2 to 4

The Cat in The Hat, Horton the Elephant, Yertle the Turtle, and Elma Sue — an animal somewhere between bear cub and duck — need I say more? From beginning to end *Dr. Seuss Preschool* is adorable, educational, colorful, and easy to navigate. Activities address critical early-learning skills in creative and varied ways. Fox in Socks needs help sorting laundry, Mayzie requires help with her ABCs so she can hatch her eggs, and the monkeys require matching in order to swing down from their tree and feed Elma Sue. The colors, sounds, facial expressions, and vocal range of each character are as consistently engaging as each activity.



The premise is simple: Horton the Elephant helps Elma Sue search for her mother. Their journey includes two general choices for sightseeing: the jungle and the pool. Within each are several activities that address words, numbers, colors, and combinations of all the above. Meanwhile Horton continues to search for Elma Sue's mother, feeds her, and even makes sure that she hears a bedtime story. All of this happens while preschoolers complete sequential math and reading activities.

Each activity has three levels. When you complete one level you automatically move to the next, but you can change levels manually as well. Each level does an excellent job of building on the one before it. When you succeed with an activity or a level, the program's payoff is tremendous — monkeys swing, chicks sing and dance, celebrating each successful attempt.

In case this program wasn't simple and straightforward enough — and it is — the instruction booklet further breaks down each section. A Progress Report allows parents to view the number of lessons a child has completed, as well as the percentage of correct answers they gave.

The only drawback is that movement from one level to the next is difficult. Often you have to click ten or twelve times on the level indicator (one, two, or three fingers to signify each level) before the fingers light up and the next level is accessed. Sometimes you click and move; other times you don't. Four-year-old Zachariah Schmidt told me how to handle it: "Just keep clicking for a really long time and it will be okay." True, but not ideal. But other than this one drawback, this program is as enjoyable an exposure to math and reading as any child could hope to get. As Jon Schmidt, father of Zachariah, says aptly, "It's just so Seussian." I'd have to agree.

— Lila M. Leff

School House Rock 3rd & 4th Grade Essentials

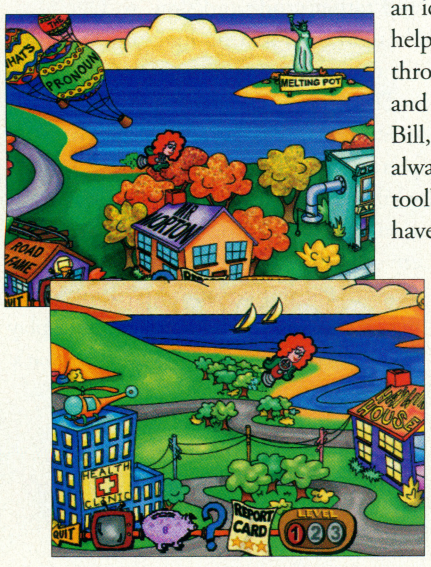




$25, Creative Wonders
800-543-9778
www.creativewonders.com
Ages 8 to 10

"Zowie! Can you save a stranded galaxy girl?" asks Inter-Planet Janet. It's not a cyber flirtation, but an invitation to join in the fun. Inter-Planet Janet is your guide through *Schoolhouse Rock 3rd & 4th Grade Essentials*' many cool learning activities. Janet needs to get back to her own future planet. To get her home you must earn coins by successfully completing activities.

After you have chosen your skill level, you are greeted with an icon-based toolbar to help you navigate through the game. Janet and her friends Lucky, Bill, and Rocky are always there on the toolbar to help if you have questions. Use your mouse to pan left or right until you come to an activity you want to try. To select an activity, simply give it a mouse click and you're in.



Kids will improve their math skills, learn geography, grammar, anatomy, and much more while playing in an environment that is nurturing and supportive.

Disk I features math and science activities and Disk II focuses on language arts, reading, and social studies. This CD-ROM set features more than a dozen Schoolhouse Rock video clips and more than 70 activities. My five-year-old daughter loves it too, but I have to do most of the reading for her.

Did you know that Schoolhouse Rock videos are used in many schools as a teaching aide? Neither did I until my eleven-year-old daughter asked me to play Conjunction Junction with her as a follow-up to the video she had in her class earlier in the day.

Tell your kids that Schoolhouse Rock is a game and they will have a great time learning with it. Parents will be comforted in knowing that the kids are having a great time while picking up valuable learning skills. But be aware that if your kids don't have good reading skills you should be close at hand to help out.

As Inter-planet Janet says, "Peace." She'll see ya soon.

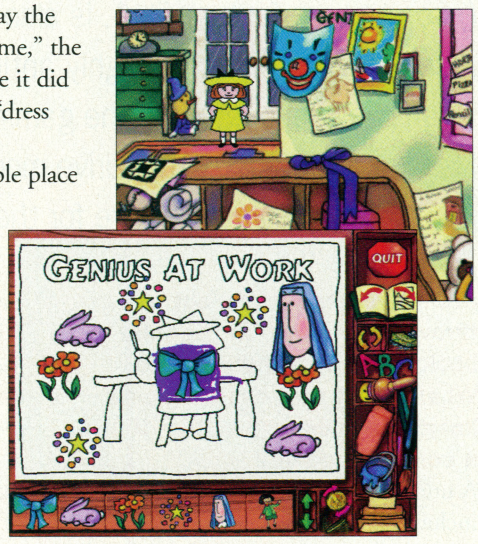
— Art Jones

Madeline: Rainy Day Activities

$20, Creative Wonders
800-543-9778
www.creativewonders.com
Ages 5 and up

The new Madeline CD-ROM, *Rainy Day Activities*, was as disappointing as, well, a rainy day.

Though on the product's cover Madeline appears proportionate to her toy chest, she functions within as a miniature version of herself, set too far in the background to be much of a playmate. Aside from stiffly gesticulating, during her full day of activities this pint-sized cartoon character undertakes only one physical routine: she jumps from a chair, turns sideways, and runs two steps off the edge of the screen. Because the animation is unsophisticated, we cannot follow her into the next room. Instead, the screen goes black and we are returned to the main playroom where nothing ever changes (the mask is exactly where it was before we clicked on it to play the "mask coloring game," the hat rests just where it did before we played "dress up," and so on).



This non-playable place is all we ever see of Madeline's house. Activities never wander, as they do in real play life, into a bedroom — the closet of which would have been a perfect place to accessorize, or to play hide and seek. Instead we are repeatedly returned not to rooms rich with detail and possibility, but to nondescript backdrops reminiscent of classroom bulletin boards, where activities occur.

The "printable" ones — which instruct kids in to make play dough, grow sprouts from seeds, and cut out their own paper dolls — are fun. The "matching games" are also rewarding. (Like the old-fashioned card game, "Concentration," these use pictures to develop memory and language skills, and there are many categories to choose from. My favorite was matching flags to their countries.) But the rest of the exercises, which include connect-the-dot puzzles, coloring games, and composing stories, Mad-Libs style, are not intelligently interactive. Kids would have more fun with a pack of Crayolas and a few old books. Quit a game before it's even begun and Madeline will still gush, "Très bon! You are very smart!" But until Rainy Day Activities gets smarter, I must say that when it comes to kids and this CD-ROM: "Je regret. Those two are not a match!"

— Amy Shafron

By Anne Marie Feld

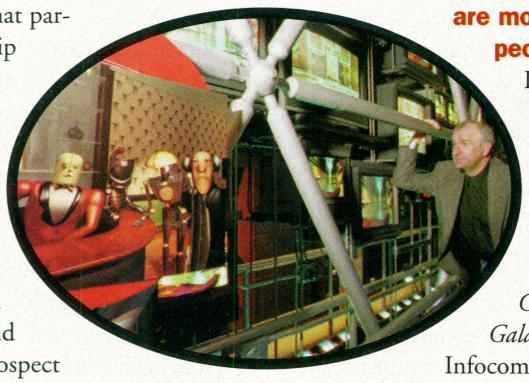
The Author at the End of the Universe

An Interview with Douglas Adams

Douglas Adams spoke to us from his home in London last November, while recovering from a cold. The author of *The Hitchhiker's Guide to the Galaxy* series (soon to be a feature film), is also an Apple Master, and more recently, creator of the highly anticipated game *Starship Titanic*. We spoke about the gaming industry, the future of the Mac, and the forces that drive modern civilization and his game — namely, the desire for the free upgrade.

Starship Titanic came out of a throwaway remark in the third book of the _Hitchhiker_ series. What was it that captured your imagination enough to turn it into a computer game?

A number of people said to me — including, I must say, my agent — about that particular bit, Starship Titanic, "There's a really good idea in there; perhaps you should make it a whole novel." And I thought about it a bit and didn't feel it would work, and in retrospect it's this: it's about a place, and a novel needs to be about a person or people.



Nevertheless, it had a sort of something about it, and years later, having decided that I'd like to do a big multimedia extravaganza thing on CD-ROM, I was thinking, "I've got to find the right thing for it. I need a fantastic place for people to explore." And I remembered that Starship Titanic sort of fit the bill pretty well.

Do you feel as if games are more about places and novels are more about people?

In a sense, yeah. Many years ago I did a game based on *The Hitchhiker's Guide to the Galaxy* for Infocom, but that was back in the days of text-only adventure games. There you're creating a kind of virtual conversation, and I liked that kind of character interaction. Then of course, graphics came along and sort of killed off all that, and I felt [it] sort of threw out the baby with the bath water. The graphics that came along in the mid eighties seemed to be rather ugly and rather crude and slow, so I thought, "I'll sort of duck out of this for the time being."

Then, when *Myst* came along, I suddenly saw that the graphics had gotten pretty good. I played with *Myst* for a while and I thought, "Great — here's a wonderful realization of a fantastical environment," but then you wander around and think, "nothing happens here"; it's a wonderful stage set for a play that doesn't happen. So I thought what's required is a mixture of the two.

What made you want to make a computer game in the first place? I don't think most writers would have that impulse.

If nothing else, it was to justify to my wife all of the computers I had bought over the years (laughs). To be honest, I never started out to be a novelist as such. I started out doing radio, television, and stage — I just like moving from one medium to another. I guess because of the success of what I've come to call "that damn novel" [*Hitchhiker's Guide*], it meant that I kind of became stuck in just writing novels, which wasn't really what I wanted to do.

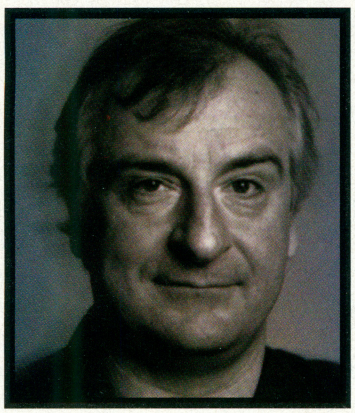
I like to get out of the house a little bit and work with other people, and I'm also sort of an amateur musician and an amateur designer — an amateur this, that, or the other. Doing this meant that I could have a go at all of those other things that I wanted to do. I'm also a bit of an amateur programmer as well, but I slightly misled myself there, because I

thought I'd be able to get in and do some of the coding myself, and it was way, way, way beyond my capabilities. Then on the other hand, knowing a little bit about programming lets you converse relatively intelligently with the programmers.

Can I get you tell us about the game in your own words?

The game is the story of what happens when the most fantastic, beautiful, stupendous starship ever built is launched by a civilization of which we know nothing, and on its maiden voyage it crashes, and the place it crashes is into your home. So you find yourself on board this extraordinary ship in the most extraordinary environment you're ever seen. It's a combination of the Ritz, the Chrysler building, the Queen Mary, Tutankhamen's tomb, and Venice, and so it looks fantastic.

But there's not that much that you can get to because when you come on board, your class is the super-galactic world-traveler class (an idea that I got from British Airways). You find yourself in the grips of one of the most powerful forces known to modern man, which is the desire for the free upgrade, and that becomes one of the struggles of the story.



Trying to get your upgrade is what brings you in confrontation with what is in many ways the heart of the game, which is negotiating with the robots. You do that by conversing with them. You go up to them, and anything you type in they will respond to in context and in character, and this is the thing we really worked fantastically hard at — there really is a fairly sophisticated language engine in there. We have something like 10,000 different responses, all of which are fairly modular, so the actual number of responses is a multiple of that. So your chances of exhausting the conversational capabilities of the game are really pretty remote. And that's the thing we labored the hardest over, and that's the thing I'm sort of proudest of, in there.

I think a lot of people aren't going to be used to the kind of verbal interaction offered in *Starship Titanic*. What advice do you have for them?

Get into it. My sense is that a lot of people feel sort of slightly odd about it when they first begin, but when you start getting responses back, you get caught up in the flow of it. That's been my experience with most people. Some people never get the hang of it, because they've spent so long sitting in front of their computers that they can't remember how to have a conversation. But generally speaking, players who have remnants of social skills manage pretty well.



Interiors of the *Starship Titanic*: The Ship that Fell To Earth

Why has it taken so long to make it to the Mac?

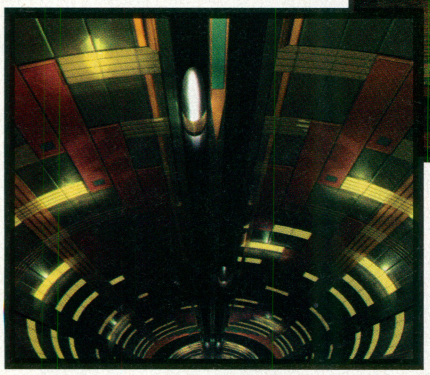
When we started out, it was my avowed intention that it was going to come out cross platform, and it was going to come out on both simultaneously. And to this end we started authoring in an environment called Metropolis [now defunct], which I had been particularly taken by, because I felt that it was a very high level authoring language, one that I'd be able to get stuck in as well.

But it gradually turned out that Metropolis 1.0 was not robust or powerful or mature enough to deal with the sort of things that we were throwing at it, and our programmers eventually said, "Look, we're going to have to write our own authoring system specifically for this game." So it was rather like you're in the middle of preparing this huge banquet and you have to pause in the middle and build new kitchens. It's one thing to try to author something cross platform, but another to try to do that while at the same time trying to create a cross-platform authoring environment; it's just a bridge too far.

So we were pretty much up against it in terms of time, budget, resources, and so forth. So in that circumstance, doing it cross platform was the thing we had to put on hold, and just concentrate on









No danger of finding Celine Dion on this Titanic.

getting it out on one to begin with. Our partners are putting a lot of money into it and need to get their money back, so there's no question that you're going to go for the ninety percent of the market first as opposed to the five percent of the market first. There's just nothing you can really do about that.

So we got it out first for the PC — and I got a fair amount of flak from the Mac community for that — but there was absolutely nothing we could do. The only other option to not bringing it out on PC first was basically going bankrupt. As soon as it was out, our team members set about rewriting the authoring system so it could be ported to the Macintosh, and that's taken quite a few months.

Were Macs used in the design?

Basically anyone who was working on it used whatever they wanted to use, so it was very much a mixed economy. So the guys doing the authoring system were doing it on PCs; the 3D work was mostly done on SGIs; and then all the guys doing 2D work and design stuff and music and all that stuff, and also writing it, were doing it on Macs. [We used] SGIs. [Even] though they're hugely expensive machines they're not as powerful as Mac PowerPCs — [but] SoftImage which was the 3D artists' program of choice, doesn't run on the Mac.

What kind of Mac do you have?

I can see an embarrassingly large number of Macs from where I'm sitting. The interesting thing is that my workhorse now is a G3 series PowerBook — the PowerBook was always the thing you transferred your work to when you were going on the road, but it's become my main platform of choice. It makes my life a lot easier. I've got a G3 minitower sitting there with not enough to do, because I didn't realize that I was going to end up working just from the PowerBook. I've got a 20th Anniversary Mac that's sort of my radio and TV up in my workroom, and there's also a 9600 on my setup with synthesizers — a whole sort of music system — and that runs that. And then there's another slightly older PowerPC that used to be my workhorse, but now it runs Dantz Retrospect and various server functions for the network in the house.

Terry Jones did a novelization of the game. Do you think people should read the book first or play the game?

Play the game first, I think (laughs). The game of *Hitchhiker* that goes with the movie will almost certainly be a console game, and I'm also in the first stages of a new novel — the first novel I've done for a long time, because I got fed up with writing novels and went off and did other things like *Starship Titanic* — and hopefully more movies [are] waiting in the wings.

There's been a lot of talk about the revival of the Mac gaming industry. As someone who's inside it, what do you see?

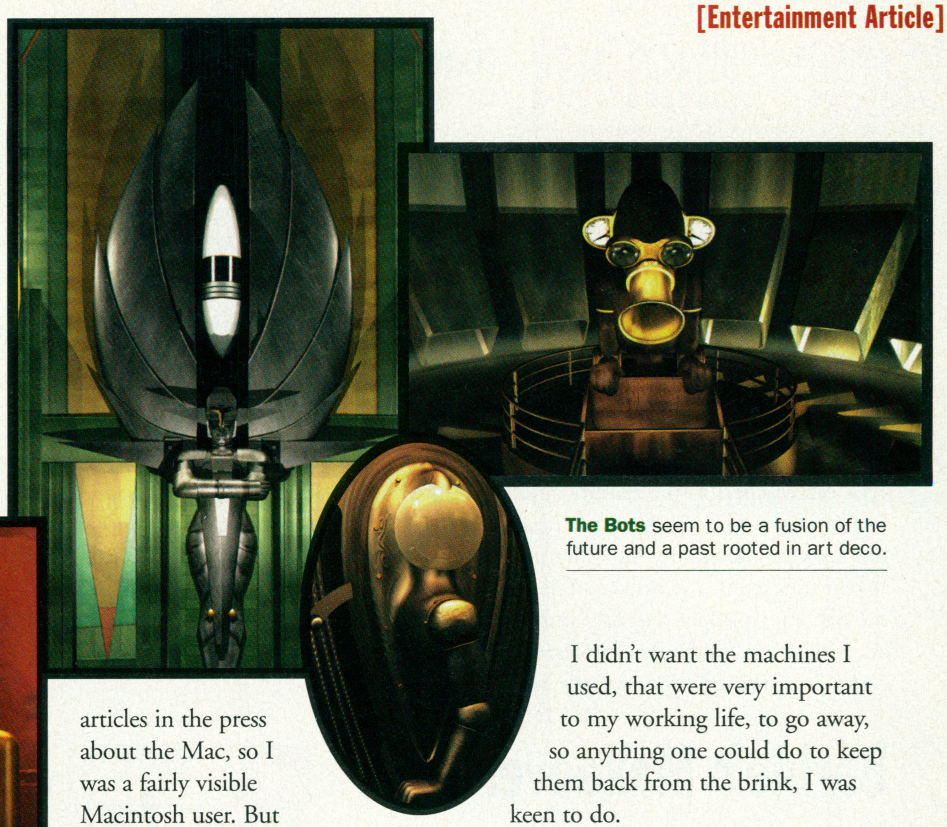
I think it's tremendously important that Macintosh really gets stuck into the game industry. I'm really glad to hear of this sort of renewed push to do so, because that's where you get your early customers. And even [for] those of us like myself who vastly prefer Macintoshes to PCs, the fact is once you've really gotten locked into an environment, then for all the advantages that I would maintain that the Macintosh offers you, it still is hard to weigh those against the disadvantages of having to change to a new platform. So getting your early customers is terribly, terribly important, and that also means games.

People always think that it's just the business market driving the technology market — it isn't. The thing that drives it is games. The game players are the ones that are demanding faster, better, cooler stuff, and the Macintosh market needs to be exposed to that kind of pressure, that kind of demand for technological whizbang.

What direction would you like to see computers and computer gaming take in the next ten years?

I think what will really take off is this wholesale movement of games from being single-player, CD-ROM-based

ones to multiplayer network games. At the moment there are huge downsides to this because of bandwidth issues. There are companies that are doing well with online games, but it's a bit of an uphill struggle at the moment. I think there will suddenly become a point where bandwidth will be increased and user access [will be enhanced] and so on, and it will suddenly take off. The great thing about that is it stops being man against machine, and starts being person using the machine as the medium.





The Bots seem to be a fusion of the future and a past rooted in art deco.

What about the use of speech recognition?

Looking at *Starship Titanic*, if we were doing it two or three years down the line [it would be different]. There are three components to doing a conversation-based game. There's the input, the output, and the bit in between. And the bit in between is where we built this engine, called Spookytalk, which handles the language. But in the end what it's doing is pointing to different sound files, which it assembles on the fly, and produces an output.

But if text-to-speech were better, then it would have been better to use that, because you have much more control, and can also make use of input from the user, reusing input from the user — which you can't do using pre-recorded speech, however modular you make it. But speech recognition is just not quite good enough yet.

How did you become part of Apple's Master Program?

I was an amateur advocate for the machine anyway; I'd occasionally write articles in the press about the Mac, so I was a fairly visible Macintosh user. But another reason [was that] I wanted to get in there and do my bit to support and promote the Macintosh, which got very close to the point of dying. It was very self serving — I didn't want the machines I used, that were very important to my working life, to go away, so anything one could do to keep them back from the brink, I was keen to do.

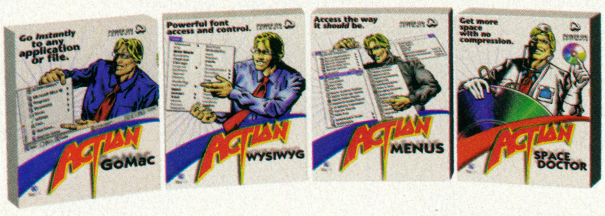
Apple seems to have done a rather sharp U-turn. I've just done my Christmas shopping — there are four iMacs in my hall waiting to go to various members of my family. VIII

In thoroughbred circles, they call this a stud.



In the quest for the winner's circle, you need to run with the best. ACTION Utilities are reliable, indispensible, best of breed productivity tools that speed you to the finish line. So go with a sure thing. Race into ACTION at www.actionutilities.com and choose your thoroughbred from our stable of winners.

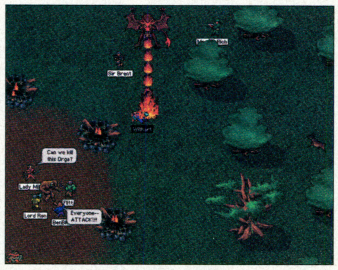
Your Mac will run like a champion.



800-344-9160
http://www.actionutilities.com
See us at MacWorld booth #306

POWER ON SOFTWARE

Enter Clan Lord



Delta Tao Software, best known for *Eric's Ultimate Solitaire* and *Strategic Conquest*, is preparing to release *Clan Lord*, a role-playing strategy game. Centered in the mythical dockside hamlet of Puddlby, you kill monsters to gain experience, and only then can you seek out teachers in the training areas to improve your skills. Status bars change during combat — one registers your balance, which you regain slowly after you attack, leaving you vulnerable, the other is more straightforward, registering hit points. When they expire, so do you. The best strategy, according to the game's makers, is the old rope-a-dope: wait for your lumbering adversary to swing and lose their balance, then hit 'em hard. New features and areas are added every Wednesday.
Delta Tao Software, www.deltatao.com

Barbie's Makeover



Mattel recently launched *My Design*, an online tool that allows users to create a personalized Barbie-esque doll, customizing her look to their specifications. Kids work in a paint-like program, changing elements (hair and eye color, hairstyle outfit, accessories, and "personal[ity] profile") one at a time until they're satisfied; adults have the option of choosing a more streamlined version of doll creation. Orders are then submitted online, and a doll is shipped out, arriving within six to eight weeks.
Mattel Media, $40 plus shipping and handling, www.Barbie.com

Where's Jobs/X-Files

Last October, we announced the Where's Jobs/*The X-Files Game* Giveaway. The Grand Prize, including a Nokia cellular phone, a Fujifilm DX-7 digital camera and a copy of *The X-Files Game* signed by the show's creator, Chris Carter, went to Jun Xu of Flushing, New York. One winner, Sam Angelo from Belleville New Jersey, included a personal note to Steve Jobs. Uh, Sam, try sjobs@apple.com.

Faces

It's not just a David Bowie record. Described as fun, easy and addictive, Faces allows users to create composite sketches in minutes — facial sketches, that is. So if you've dreamed of a career as a police artist, or if you just have an interest in the tools used by law enforcement agencies, the $50 software may be for you.

The interface will be familiar to those of you conversant with Mattel's *Cosmopolitan Virtual Makeover*. Canadian developers InterQuest also win the prize for offensive punning, calling the software an "arresting application for consumers of all ages."
InterQuest software, www.facesinterquest.com

Logicware Announces Spring Release for *Quake 2*

***Quake 2* is expected to hit the** Mac platform in the Spring of 1999, according to Steve Parsons, president of California-based Logicware, which will port and publish the title.

A bestseller on the PC side in 1998, *Quake 2* offers all the rage, gore and wrath of the original *Quake*, plus, says Parsons, "It's got Harvard Acceleration, and a full 3D polygon engine. *Unreal* looks prettier, but *Quake 2* has the best look and feel of any death-match game out there."

Quake 2 also boasts a centralized plotline: "When *Quake* came out they had four different styles of levels. None of them really hooked together well at all, whereas this is a uniform storyline — in *Quake 2*, you step into the elevator to go to the next area, and you have a hesitation that loads a new level up, and you keep going," says Parsons.

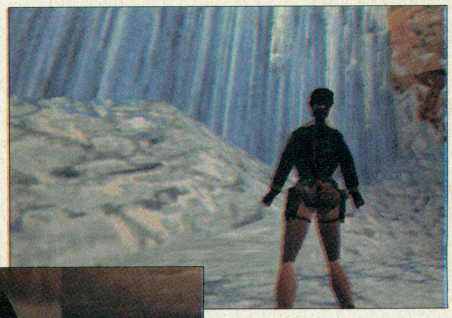
Logicware also recently released two other games for the Mac: *Redneck Rampage*, which marries the beer swilling, pork-rind scarfing trailer-park set with *The X-Files*, and *Jazz Jackrabbit 2*, a family style, side-scrolling arcade game created by Epic Megagames, the same people who made *Unreal*.

Upcoming titles from Logicware for the Mac include *Zork: Grand Inquisitor*, *Interstate 76*, *Battlezone*, and more — many more, if the rumors flying at press time are true — are expected to be released throughout 1999. Also, look for a *Quake 2* contest in *MacHome* come spring.
Logicware, www.logicware.com

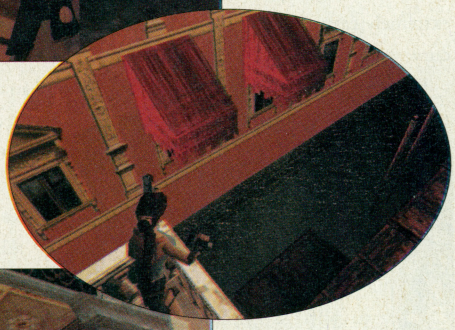
Tomb Raider II



$50, Aspyr Media
512-708-8100
www.aspyr.com
PowerPC Required











I have died a thousand deaths as Lara Croft. I've been poisoned by spiders, impaled on long silvery spikes, flattened by boulders, attacked by crows and dinosaurs, and fallen from great heights. A blockbuster for the PC and Playstation, *Tomb Raider II*, the most hyped game of the year for the Macintosh, lives up to the hype.

In a twist on Indiana Jones and the Temple of Doom, we direct our heroine, a beautifully voiced and ridiculously proportioned Lara Croft (Barbie would envy Lara's shape) in search of the Dagger of Xian, reputed to make the possessor undefeatable. Unlike traditional shooters, we are positioned behind Lara — dressed in short-shorts no matter what the weather — with a constant view of her posterior. We do occasionally get a front view of Lara, and this is usually to highlight her heaving bosom as she audibly pants. But despite the obvious objectification of Lara as a polygonal sex goddess, she remains a compelling and powerful heroine.

An excellent tutorial takes you through the paces of what Lara can do — jumps, flips climbing, and running — and allows you glimpses into Lara's house and gardens (these are very impressive). A locked closet in Lara's bedroom remains so until you complete the game, but other than that, there's nothing that really goes on in the house and garden except for training. However, a shaky and annoying butler follows you around with tea.

You'll travel the world: The game kicks off at the Great Wall of China, and the action moves to Tibet (excellent snowmobiling there) and Venice. There are sixteen big levels in all.

The graphics are pretty amazing, but they need a little help from a 3-D card to show their full potential. In one scenario, you can see a tiger moving overhead when you're underwater. Lighting elements are sophisticated, and you can employ flares in areas that are too dark to navigate through. Some segments are downright cinematic, complete with context-sensitive music and cutaway shots of the action taking place behind you. The sound is also impressive; if you listen carefully, it will tip you off to what's about to happen. The cry of vultures in the distance, the scratchings of spiders, and the roar of boulders are all alerts. If you haven't listened carefully enough, you'll hear a sound I heard too often: the death rattle of Lara Croft.

The puzzles are challenging. Doors are locked, and try as you might, shooting at them won't open them. There's a lot of searching for keys and other objects — tough for people without much puzzle-solving experience — but it makes the game more interesting than a straightforward shooter. If the game is a little much for you, an excellent walkthrough is available at The Spoiler Centre (www.the-spoiler.com). But even with cheats, there are sequences of the game that need to be executed with balletic precision, and nothing but practice will get you through them. The game requires time and lots of it.

In the early scenes of the game, things are more restful, adversaries are slower, and the most difficult challenge for Lara is in finding her way out of the cavern. Later scenes are pure heart-pounding action, requiring split-second decision-making during what seems to be a never-ending sequence of traps and pitfalls. The action is definitely not for the faint of heart.

Tip: Lara's guns are auto-aim, so all you have to do is draw and shoot. The game will change angles to show you incoming attackers, so if there's a sudden shift in your point-of-view that you're not responsible for, draw and shoot ASAP.

More adventures of Lara are slated for 1999: Aspyr is currently working on *Tomb Raider Gold*, a version of the original with four extra levels. However, *Tomb Raider II* should keep fans of puzzle-solving action happy for a long, long time.

— Anne Marie Feld

Making More Music

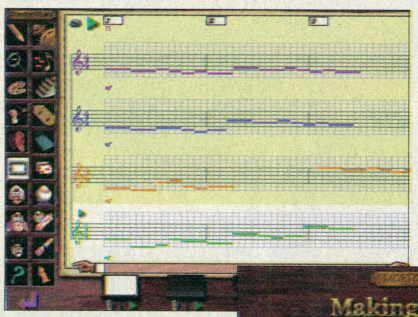


$30, Voyager
800-556-8074
www.voyagerco.com

Are your kids making enough music? If not, you may want to introduce them to *Making More Music*, Voyager's more-sophisticated version of its venerable *Making Music* title. *Making More Music* provides children with information about music, games that teach the basics, and tools for creating their own compositions. The program has a folksy, faux-wood main screen, from which kids can explore the program's main areas according to their own interests.

Both the Rhythm Band and Chamber Music sections will give kids an excellent introduction to music composition, but specifically from a computer music background. These sections are tiny "sequencers" — programs that composers use for making computer music — usually in the form of MIDI files, to be imported into games or CD-ROMs or to be manipulated by sophisticated sound processors. Although they are both extremely easy to use, the musical neophyte may expect a bit of a learning curve before the tools become intuitive.

In Theme and Variations, kids can mix and match different melodies to get a sense of musical structure. The Games section provides good training for matching melodies and rhythms as well as for identifying related themes and variations, and although they feel a bit more like educational activities than games (you can only compete against yourself), you do get a rousing cheer with your score when you get the right answer. In Composition Books, kids can store, print, copy, and play their compositions.





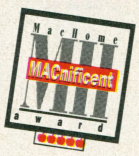
The encyclopedic information is a bit hidden — in an Information icon at the bottom of the screen — so it's easy to overlook. But it has a wealth of information about music, instruments, styles, and notation delivered in the form of movies with lots of musical accompaniment.

Making More Music could be great for musicians who want to brush up on their music theory and dabble in composition, especially if they use the program in conjunction with additional training. However, those who are completely new to music and those who don't have access to additional training might find the program a bit baffling, and might be better served by trying a guitar or a drum.

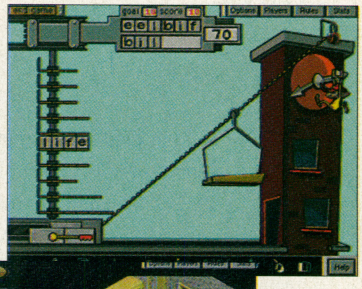
— David Weiss

After Dark Games

$30, Berkeley Systems
800-757-7707
www.berksys.com
PowerPC Required



There's a whole lotta time-wasting potential on this slender CD. Selected characters from Berkeley Systems' After Dark Screen Savers have been recast into eleven brilliant games, most of them fiendish time vampires. They're simple — each takes about fifteen seconds to learn — and the games themselves don't take long to complete, making them perfect for short breaks, except that they're really hard to stop playing.







Moo Shu Tiles is an ordinary game: Match random tiles on various levels (some look like the Olsen twins — a.k.a. the Monkey Girls — and you'll want to match those quickly to remove them from sight). Tiles must be "free," unfettered by tiles atop or to the right and left of them. Clear the board and you win. There's excellent jazz music that accompanies gameplay and a nice hint feature that can get you out of a jam from time to time, though it's easy to hurtle blindly into a dead end in this game.

Roof Rats is similar — detonate groups of two or more adjacent rooms to collapse buildings floor by floor so that the tenants can escape off of the roof. Tenants have different heights that they can escape from: The Marine, who looks like a denizen of San Francisco's Castro Street, can get down from five stories high; the Old Lady needs to be lowered to street level. There's an undo mode for when you've hit the wall in terms of collapsing buildings, but all told, this game is much more challenging that it sounds.

Hula Girl is a little more twitchy — you're basically trying to keep jumping from tile to tile, avoiding things Hula Girl finds yucky, picking up stuff she likes. Gameplay speeds up automatically, accelerating the rate at which you make decisions. Speed is also a factor in Bad Dog 911, which is a scaled-back version of Boggle, in which you must make as many words as possible from a selection of letters. Fish Sticks is similar: Letters on the sides of schools of fish must be turned into as many words as possible before the fish swim by.

All of the games train your brain to make fast decisions and think outside of its normal parameters. They're great for — I choke on the phrase, but it's true — the whole family.

— Anne Marie Feld

The Untouchable

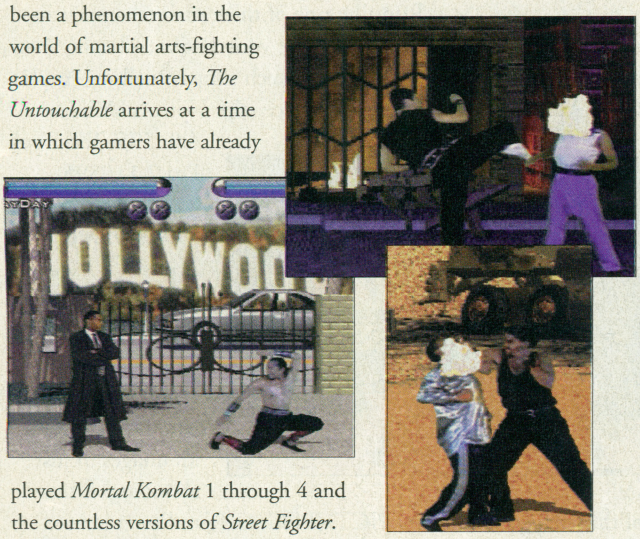


$50, Power Media, Inc.
503-684-8232
www.powermedia.com
PowerPC Required

When Creative Edge, the Sterling, Virginia-based development house, announced its intention to produce the first high-quality, no-nonsense action fighter for the Macintosh, Mac-owning arcade enthusiasts cheered. It looked as if the Macintosh gaming community would gain a first-rate fighting game.

The Untouchable, as a spectacle, is very nice to watch. The character graphics are extraordinarily clear. The martial arts used are truly genuine, and they may be the most accurate representation that we have seen in a fighting game to date. The on-screen action is very smooth, even on the lower-end PowerPC 603e Macs we used to test the game. As a game, however, *The Untouchable* is lacking in the vital areas of today's fighting games.

Had this game been released three or four years ago, it would have been a phenomenon in the world of martial arts-fighting games. Unfortunately, *The Untouchable* arrives at a time in which gamers have already played *Mortal Kombat* 1 through 4 and the countless versions of *Street Fighter*. Comparison with these games is going to be inevitable for *The Untouchable*, and the comparison won't be kind.



Fighter games have been put through the wringer in the past few years; companies have struggled to bring more ingenuity to the genre. Much of this work has been translated into the story line. Almost every fighter out there has a story, yet *The Untouchable* has virtually none. As for gameplay, I found the action rather slow at times, and control was lacking in key areas, especially when jumping. Lastly, characters have considerably fewer moves than in most games, which often leads to a frustrating lack of variety in a match.

In the end, *The Untouchable* proves to be one of those games that you'll load up only for the occasional time-killing session. Martial artists will revel in the game's true-to-life simulation, bur hard-core fighting aficionados will be sorely disappointed in the lack of story and gameplay. The only hope in this otherwise lackluster game is its sequel, currently being developed by Creative Edge, which promises to be much better. I certainly hope so.

—Alex Vranian

You Don't Know Jack, The Ride



$30, Berkeley Systems
800-757-7707
www.berksys.com
PowerPC Required

For those of you unfamiliar with the *You Don't Know Jack* series, it's time to come to terms with the errors of your ways. Billed as the Irreverent Quiz Show Party Game, the game takes trivia and turns it on its head by way of insulting, smart-ass hosts and cleverly engineered questions that often require more than just knowledge in a given subject area.

Volume 4, *The Ride* begins with a question: something like, "If you arrive at your office early and no one is there, what do you do? a: work on your novel, b: photocopy your butt." The question susses out whether you prefer the vanilla or ribald varieties of the games, though users opting for the spicier variety aren't in for anything overwhelmingly juicy.

Questions are typical *Jack* fare, mixing high and low culture, e.g., "What is the earliest time period that the show 'Green Acres' could possibly take place?" The correct answer is "Neolithic": the first agrarian culture.

New games have been added into the mix, and fans of *Jack* will be glad to see the return of Dis or Dat and Jack Attack. The predetermined cash values of earlier *Jacks* have been replaced with a slot-machine-like system of revolving values, and you attempt to buzz in at the highest posssible value.



A few things I don't like include the fact that you can no longer choose the length of the game (former *Jacks* allowed for a choice in the number of questions), the "wacky commercials" that segue you into the game are sometimes annoying (they're also available on an audio portion of the CD, part of the special collectors' edition), and that it takes more than a sizeable hunk of memory. Also, leaving other programs running while using Jack is a bad idea. My machine crashed more than once.





Despite these shortcomings, *You Don't Know Jack, The Ride* is excellent. It has a list of credits as long as an action movie, and the hard work shows up in the game. The questions are still sharp and fun, and left running on a computer at a recent party, the game was played continuously for almost seven hours by one group or another. Hopefully that says more about the game than it does about the party.

— Anne Marie Feld

By Chris McVeigh

Software Essentials

Must-Have Utilities and System Enhancements

Experienced Mac users have come to depend on several key pieces of software that extend functionality and keep their Macintoshes humming happily. Here's a concise list of these must-have utilities and system enhancements.

StuffIt Expander/DropStuff

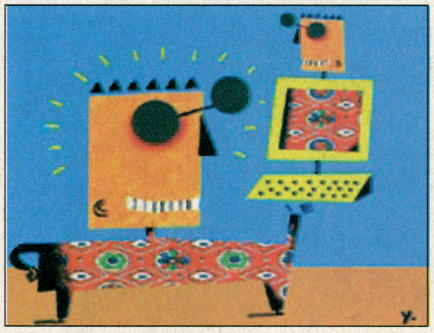
Aladdin's StuffIt has become the de facto file compression standard on the Macintosh. Almost all Mac files you download from the Internet have been compressed using the StuffIt protocol. StuffIt Expander is an essential utility that decodes and decompresses stuffed files. Aladdin's DropStuff provides a convenient way to quickly compress files into StuffIt archives. StuffIt Expander 5.0: Free; DropStuff: shareware, $15.

Adobe Acrobat Reader

Acrobat files are electronic documents made from word-processing or page-layout programs. The Acrobat file format — PDF, or portable document format — is cross-platform compatible, meaning that the same file can be shared by Mac, PC, and Unix users, making it a popular medium for distributing information online (including product manuals). To view these documents, you'll need the Adobe Acrobat Reader. Acrobat Reader includes a Web browser plug-in, allowing you to view PDF files within your browser window. Acrobat Reader 3.0.1: Free.

Adobe Type Manager

Although the Mac OS includes full support for TrueType fonts, it does very little to accommodate PostScript fonts. As a result, PostScript fonts don't display properly onscreen and can't be printed to non-PostScript printers. Adobe Type Manager (ATM) cures these problems. ATM is included with Mac OS 8.5 and every Adobe product, including the free Acrobat Reader package. Adobe Type Manager: Free.



Conflict Catcher 8

Casady & Greene's Conflict Catcher began life as a simple tool that helped you troubleshoot potential conflicts among extensions and control panels. With version 8 it has evolved into the kind of utility that once you have it, you can't imagine doing without it. Conflict Catcher makes troubleshooting less tedious by partially automating the process. It monitors the entire startup sequence, and if your Mac crashes while starting up, Conflict Catcher will identify the extension or control panel that caused the problem. Conflict Catcher 8: $75.

Norton Utilities or TechTool Pro

Just as surely as you will catch another cold, your Mac's hard drive eventually will be afflicted with some form of corruption. Apple's Disk Doctor can fix many common problems, but it remains a limited repair utility. The more robust Symantec Norton Utilities and MicroMat TechTool Pro scour your hard drive for inconsistencies and errors. When trouble is found, often it can be repaired. Running one of these maintenance utilities might cure your system, allowing you avoid lengthy tech support calls to Apple or even a service trip. Norton Utilities 4.0: $95. TechTool Pro 2.11: $95.

PictureViewer

Apple's QuickTime 3.0's PictureViewer is a remarkable application that allows you to view graphics images in just about any format — PICT, JPEG, GIF, and even layered Adobe Photoshop files. It opens files in a snap, and it automatically scales larger images to fit the current screen size. PictureViewer: Free.

Virex or Norton AntiVirus

Mac fans have long sat comfortably in the bleachers, watching PC users struggle with virus after virus. Our apparent immunity to this digital terrorism was shattered by the now infamous Autostart Worm. A virus detector is once again a must-have utility for Mac users. Both Symantec's Norton AntiVirus for the Macintosh and Network Associates' Virex have regularly updated virus definitions (databases) to ensure you avoid infection. Norton AntiVirus: $65: Virex: $60. MH

JAMES YANG

Apple chose EarthLink for the iMac, why not choose EarthLink for your Mac

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"EarthLink has become the Macintosh of the ISP world — the way for 'mere mortals' to connect to the Net." Business Week, December 15, 1997

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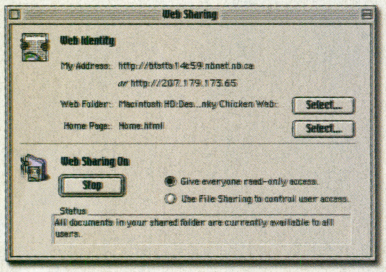
* Monthly rate is $19.95 thereafter

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By Chris McVeigh

Personal Web Sharing

Did you know that with a single click, your Macintosh can become a web server? With Apple's Personal Web Sharing, it's really that easy. Personal Web Sharing is installed as part of the standard Mac OS 8.5 package. Once installed, you need only open the Web Sharing control panel and click Start to get yourself on the Internet. The Web Sharing control panel will then initiate a connection to the Internet and determine your Web address. The control panel will return a multi-digit Internet protocol (IP) address, such as 207.299.320.1, that points directly to your computer.



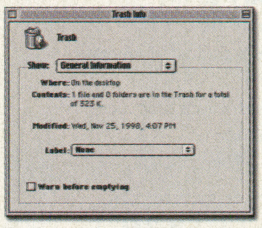
From the Web Sharing control panel, you specify a folder to be shared over the Web. Any files you place in that folder are then available to anyone with Internet access and your Web address. In essence, you'll have created an FTP server. This is particularly useful if you need to transfer large files to someone — a file perhaps 10 or 20MB in size, making it impractical to send it via e-mail. You can simply drop the file in your web folder and give your colleague your Web address, and he or she can download the file directly from your computer.

If you're a budding Web designer, you can also use Personal Web Sharing as a test ground for your latest HTML files. You can specify a home page from within the Web Sharing control panel. Every time someone logs into your computer, they will be served that page instead of getting a simple listing of available files.

The only caveat of Personal Web Sharing is that most people do not have a static IP address. This means that when you make a connection to your Internet Service Provider (ISP), you are not guaranteed the same IP address as the last time you logged on, so most likely no one will be able to find you. Unfortunately, this prevents most people from using Personal Web Sharing as a business tool. One solution to this problem is to ask your ISP for a dedicated IP address. More often than not, you will be charged a small premium for this service. However, once you have a dedicated address, you can apply for a unique domain name of your own (such as www.funkychicken.com) and have it routed to your computer.

Trash without Remorse

The Mac OS has a safety protocol in it that politely verifies you want to empty the trash each time you select Empty Trash from the Special menu. After some time, this redundancy can get annoying. After all, if you put something in the trash and you select the Empty Trash command, you're probably pretty sure you want to empty the trash, right? You can turn off the warning by highlighting the Trash icon and selecting Get Info from the file menu. At the bottom on the information window, you'll see an option to "Warn before emptying." Simply uncheck this item, and you'll never be bothered by the warning again. Just be sure not to store valuable items in the trash.



No Hassle Printing

Mac OS 8.5 makes it easy to quickly print graphic files without the hassle of opening the application the image was created in. Simply drag any JPEG, PICT, EPS or even PostScript file to your desktop printer icon and drop it in. Mac OS 8.5's desktop printer manager goes right to work. If you want multiple prints of the graphic or other advanced printing options, however, you'll need to open application and print normally. Mac OS 8.5 introduces a cool new feature to the Date & Time control panel — the ability to use a network time server to set your Macintosh's clock. When the Network Time Server option is selected, your computer will poll an Apple time server (three are available — America, Europe, and Asia) at regular intervals and adjust your clock if ever it should find a discrepancy. Although it's not rocket science and it certainly won't improve your productivity, it does make life just a tiny bit simpler.

check it out!

At the **MacHome Interactive Website**, we offer a wide range of services to keep you up to date and your Mac running in tip-top condition. Make sure to check out these great services:

- Free tech support
- Mac news, updated daily
- Hottest shareware titles
- Searchable product reviews index
- *MacHome*'s Tip of the Day!
- And much more!

www.machome.com

Internet Address Clippings

From time to time you have probably received an e-mail message from a friend or a document from a colleague that contains an e-mail, Web or FTP (file transfer protocol) address you want to keep handy. Traditionally, this has meant copying and pasting the address elsewhere or dragging a text clipping to the desktop. To access a web site, you may have had to double-click the clipping file, copy its contents, launch your web browser and then paste in the address.

Mac OS 8.5 drastically simplifies this procedure. If you come across an e-mail, web orFTP address you'd like to keep handy, you'll still need to drag the address to the desktop. However, instead of a text clipping, you'll create a double-clickable link that will launch your Web browser and go directly to that address (or launch your e-mail application and create a new message addressed to that person). You can tell what kind of link you have created simply by looking the icon, too: e-mail addresses have a letter on them, Web addresses have a tiny picture of a Web browser, and FTP addresses incorporate an image of a server. And conveniently, the icon's text includes the first 31 characters of the address.

If you'd like to quickly access a Web address from any application, create a new folder in your Apple Menu Folder and add Internet address clippings to it. Then, no matter what application you are in, you can quickly access your favorite web sites.

Smart Scrolling



One of Mac OS 8.5's more subtle new features is smart scrolling. Smart scrolling reorganizes the scroll bars so that both the up/down and the left/right scroll arrows are located in the bottom right of every window. This allows you to quickly scroll through a window's contents in any direction without having to move the mouse cursor all over the screen. Smart scrolling also intelligently expands and contracts the scroll bars to reveal the percentage of the window contents currently visible. For example, a long scroll bar that almost fills the scroll area suggests that you are looking a almost all of the window's contents, whereas a tiny scroll bar might suggest you are looking at just a tiny portion of the window contents.

Smart scrolling isn't automatically enabled when you install Mac OS 8.5. If you'd like you give it a try, you'll need to go to the Appearance Control Panel, click on the Options tab, and click on the smart scrolling checkbox.

Easy Internet

When you click on a hot link (a Website or e-mail address) in an document, your Mac may start up the wrong application with which to process the link. That's because many applications refer to a small utility called Internet Config to pick helpers. Chances are you have it on your system. To make sure hot links activate the correct application, start up Internet Config, click on Helpers, and change the "http," and "ftp" entries to your preferred browser; change the "mailto" to your preferred e-mail application.

share your tips!

Got some tips you'd like to share with your fellow *MacHome* readers? Please send them to:

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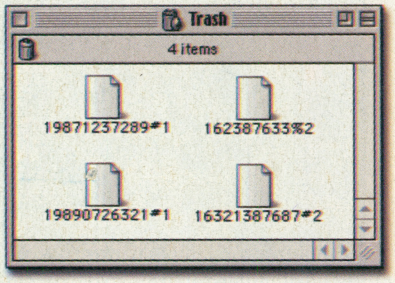
By Chris McVeigh

Trash Talk, VRAM for LCDs, and Embedding Fonts in EPS files

Q Sometimes it seems items are put into the trash automatically through some process that I am not personally responsible for. As an example, there are now four items in the trash that I did not put there, with these bizarre names: 271443087, 2798522299, 6500695, 6533746. This mysterious event has happened about four times in two years. What's going on?

—Stan Steele

A Given the irregularity of the appearance of these items and the fact you haven't reported any other unusual behavior, I'd say there is nothing to be alarmed about. One of the applications you're using is probably creating "scratch



files" on your hard drive. Adobe Photoshop, for example, will use a part of your hard drive to store frequently used image data. Ordinarily, you'd never see these files. Occasionally, however, Photoshop might quit unexpectedly or you might experience a system crash, and some mysterious files may then appear in the trash. Several other applications, including Microsoft Word, create similar temporary files that appear only after an application or system crash. Don't worry about them at all. Just trash them when you find them, if only to free up hard drive space.

Q I have read several articles on LCD monitors, but none mentions if an LCD monitor requires any extra VRAM. Would a 15-inch CRT monitor and 15-inch LCD monitor require the same amount of VRAM?

—Daniel Vanwie

A The factors determining the amount of VRAM you require are the resolution of the display (1024 x 768, for example), and the color depth (256, thousands or millions of colors). The type of display, be it a standard cathode ray tube (CRT) or a liquid crystal display (LCD), is irrelevant. Here's a simple chart to help determine how much VRAM you require:

Resolution	16-bit	24-bit
640 x 480	1MB	1MB
800 x 600	1MB	2MB
832 x 624	1MB	2MB
1024 x 768	2MB	4MB
1152 x 870	2MB	4MB
1280 x 960	4MB	4MB
1600 x 1200	4MB	6MB

Q If I save an Adobe Illustrator file as an EPS file and move it over to a different Mac (or even a PC), should I embed the fonts?

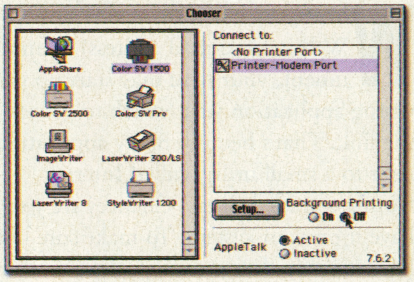
—Forrest Fong

A An EPS file (Encapsulated PostScript) image is noneditable. If the image contains text, you'd do well to embed the fonts in the file. There is no guarantee that the computer you move the file to will have those fonts installed. When printed, the EPS file will make calls for certain fonts, and if they are not available, Courier will likely be substituted. So it's better to be safe than sorry!

Q I have a Power Macintosh 6205 with a StyleWriter 2400, and I recently upgraded to Mac OS 8. Now when I print, a dialog box comes up and my print jobs are sent into a queue rather than being printed right away. How do I get my documents to print immediately?

—Stephen Denham

A Mac OS 8 automatically assumes that you want "Background Printing" activated. Your print jobs are now being processed in the background, allowing you to use the computer. This can slow printing significantly, however, especially if you perform additional tasks with the computer while you wait. Unfortunately, the print job always takes a back seat to anything you might be doing in the foreground. The processor only processes your print job when it has free time.



If you'd prefer to get your documents printed right away, you'll need to launch the Chooser from the Apple Menu.

Once open, select the StyleWriter 2400. At the bottom right of the window, you'll see an option to turn Background Printing on or off. Click the Off button and close the Chooser. You'll be able to print immediately once again.

Q I'm planning to add 256MB of RAM to my Power Mac G3, and I wanted some advice. Is there any significant difference in quality among RAM vendors, or should I just go for the best price?

—Leo Hirai

A RAM is a product that either works or doesn't work. There is rarely a middle ground. RAM doesn't wear out, so if it works flawlessly when first installed, it is highly unlikely to degrade over time.

It's important to note that most RAM vendors purchase RAM modules from one of several semiconductor manufacturers. Paying a premium for RAM doesn't necessarily mean you'll be getting premium RAM; one semiconductor manufacturer isn't necessarily better than another. I've purchased expensive RAM from a high-profile vendor only to find the memory module was the same exact module I'd purchased from a no-name vendor several weeks before. Same capacity, same speed, same manufacturer, yet I paid $30 extra for it from a big name vendor.

So why the difference in price? High-profile RAM vendors buy RAM in bulk from a semiconductor manufacturer, test it, repackage it, and advertise it. This increases the company's overhead costs, and these costs are passed along to the buyer. Fortunately, the testing done by these vendors ensures that their customers are very rarely sold flawed memory modules.

To lower costs and remain competitive, some vendors dispense with these extras, including the testing. As a result, there is a slightly higher chance you'll be sold a flawed memory module.

What does this really mean to the buyer? Not much. If you buy a cheaper RAM module and it works, you've saved yourself some cash. However, if it fails, you'll have to exchange the RAM module for a new one. The RAM vendor's reputation and return policies are thus one of the most important considerations when purchasing memory. Before you buy anything, read the fine print. Make sure the vendor will exchange a flawed RAM module without a hassle.

Q When I recently did a clean installation of Mac OS 8.1 on my Power Mac 6100/60, I discovered that my GlobalFax Teleport Platinum fax addresses were lost. I assume I can't get them back; but how do I avoid losing this info on future system updates?

—Rob Russell

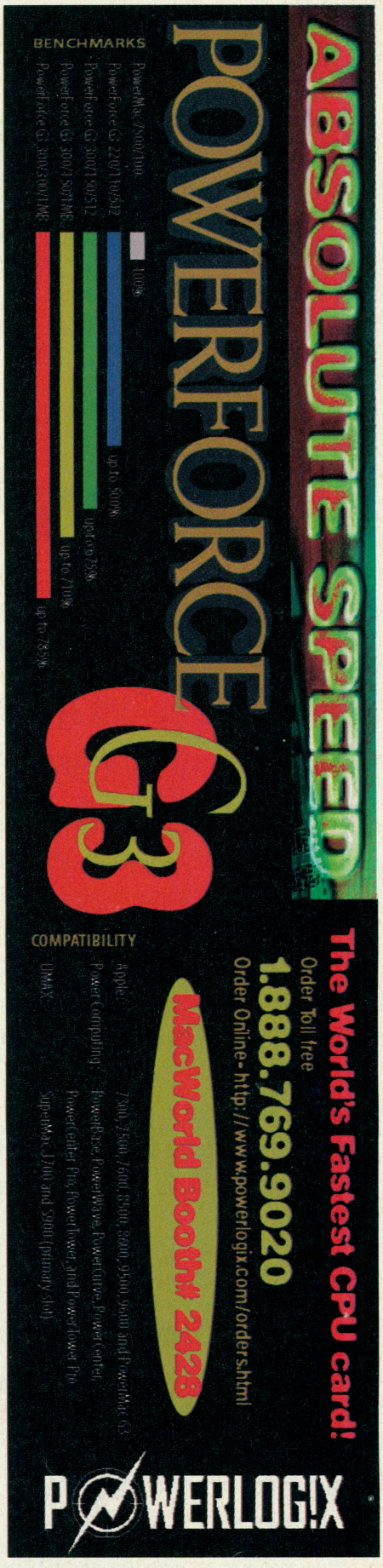
A The Global Village fax software stores your fax address book in the Global Village folder within the Preferences folder inside the System Folder. Thus, when you performed a clean install of the Mac OS, your address book stayed put in what became the Previous System Folder. If the Previous System Folder is still on your hard drive, you can just drag the entire Global Village folder from the old Preferences folder to the new Preferences folder.

You've discovered one of the more annoying aspects of performing a clean install — preferences, third-party control panels, and extensions remain in the Previous System Folder. In the future, if you insist on clean installations, consider using the shareware Clean Install Assistant, or Casady & Greene's Conflict Catcher 8. Both move preferences, control panels, and extensions from the Previous System Folder to the new System Folder to get you back on track in no time at all. MH

let us know!

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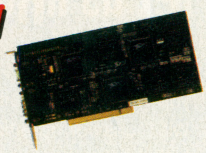
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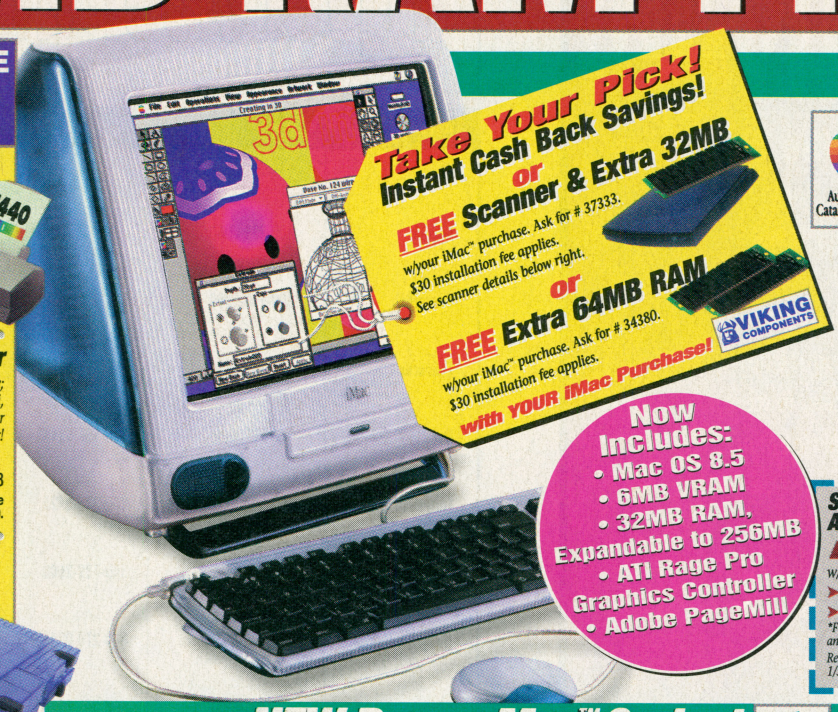
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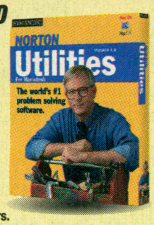
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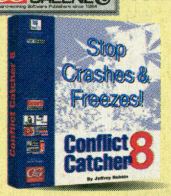
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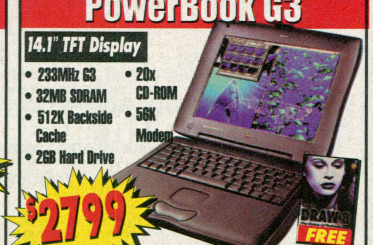
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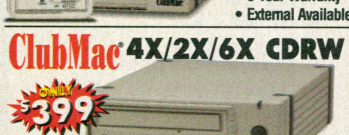
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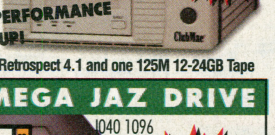


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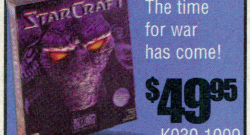
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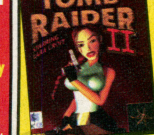
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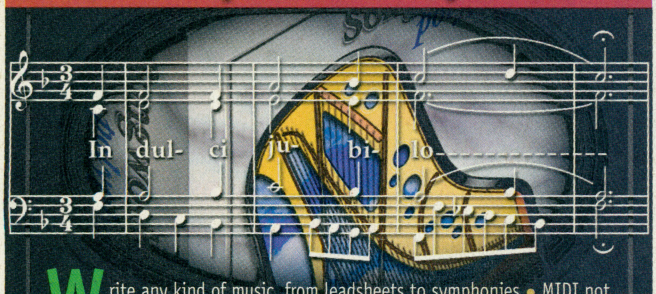
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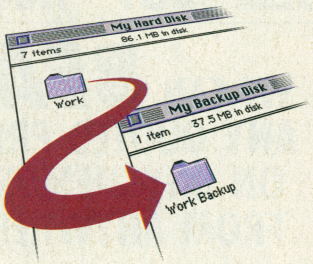
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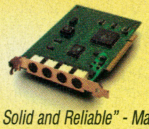
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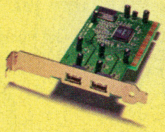
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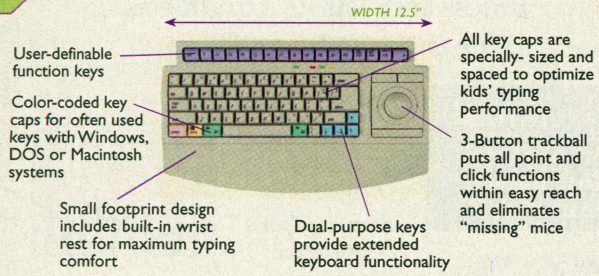
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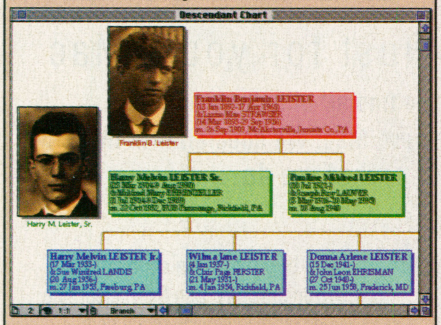
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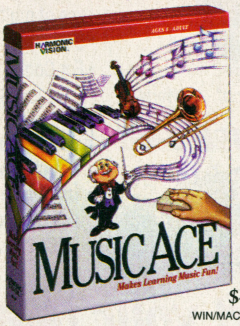
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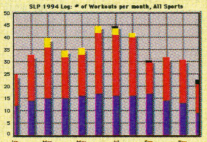
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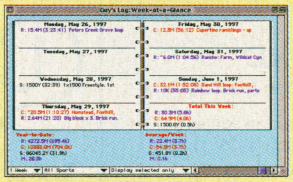
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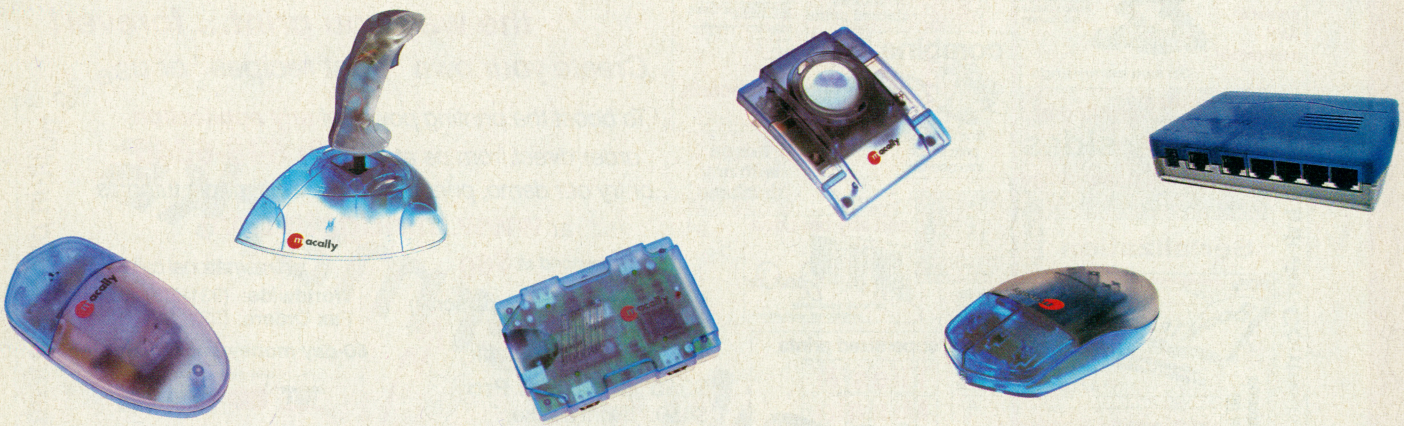
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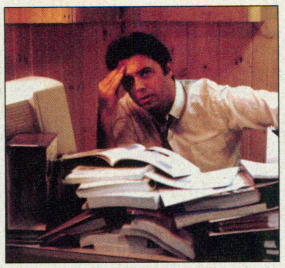
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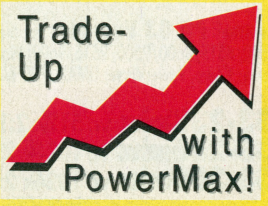
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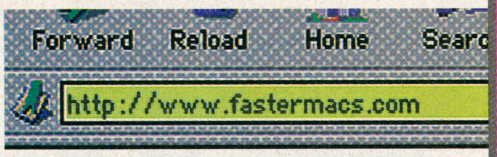
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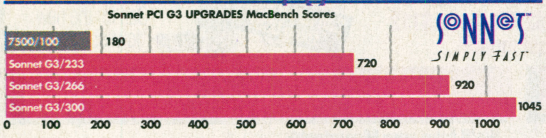
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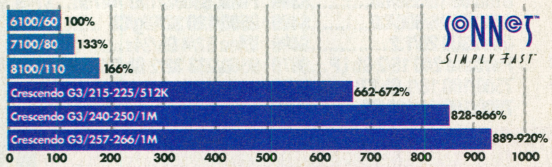
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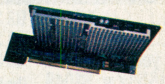
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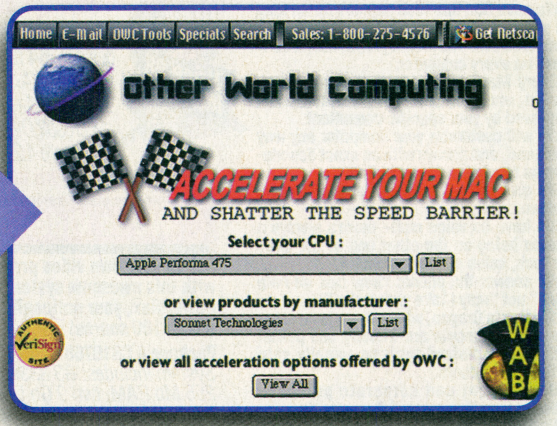


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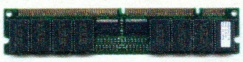
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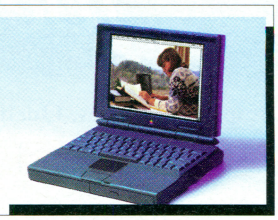
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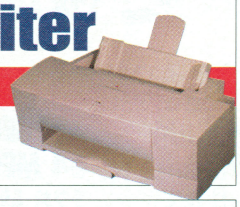


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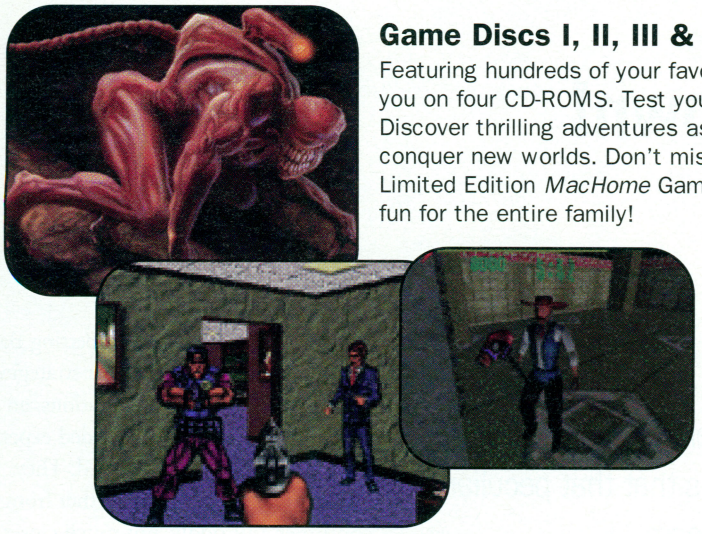
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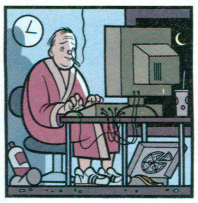
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the Finder [Commentary]

By John Poultney

Loosest Slots in Town!

Why Apple is Like Las Vegas

Let's talk *Vegas*. That curious, glittery town in the dusty Nevada desert. But let's not discuss Las Vegas per se — that's a tired, hackneyed topic. Rather, let's consider the oddly similar, if not exactly *parallel*, journeys that that peculiar city and Apple have taken throughout the years.

In a nutshell, both Vegas and Apple have found that their best customers are the common people, not the rich and famous. Think about it — Vegas started as a playground for the high society, where movie stars and their entourages would drive their Stutz Bearcats to frolic in the palatial casinos that sprang from the dust. Glamour was the rule, and nothing was too extravagant. Caesar's Palace filled with high rollers playing Baccarat, Craps, and Monte Carlo, while the theaters featured the legends of showbiz: classy names like Frank Sinatra, Sammy Davis, Jr. and Dean Martin (let's just ignore Buddy Hackett for now).

In contrast, Apple started off humbly, selling a few systems to computer enthusiasts here and there. No big names, no big whoop, not much glam. But as the genius of the company's products became apparent, Macs like tumbleweeds in a dust storm landed in schools, universities, newspapers, magazines and corporations. Apple struck gold and wanted *more* — more big-money corporate sales, that is.

But in Vegas, casino operators wisely came to take Abraham Lincoln at his word that God must have loved the common man, having made so many of them. They started to market themselves to regular slobs instead of just rich film stars, surmising that there's a lot more of the former than the latter. Maybe they weren't as refined, and had comparitively meager incomes, but their dollars were still green. Before you could say, "Come seven, come eleven," slot machines had replaced sophisticated high-roller games as the big money makers. Casinos now make more cash from folks named Jimbo, Colbert and Bubba risking nickels, dimes and quarters than people named Gwyneth, Scudder and Balthazar playing fancy-shmancy card games. As for the shows, these days you're more likely to see RuPaul than Burt Bacharach.

Apple was like a sweaty, drunken fiduciary swaggering down Tropicana Boulevard ...

At Apple, The Computer for the Rest of Us grew to become part of a strategy to market products, services, and contracts to companies, not people. The elusive jackpot was to get Macs entrenched across entire corporations, not just a few weirdos in the graphics department — and reap the untold riches from deep corporate pockets.

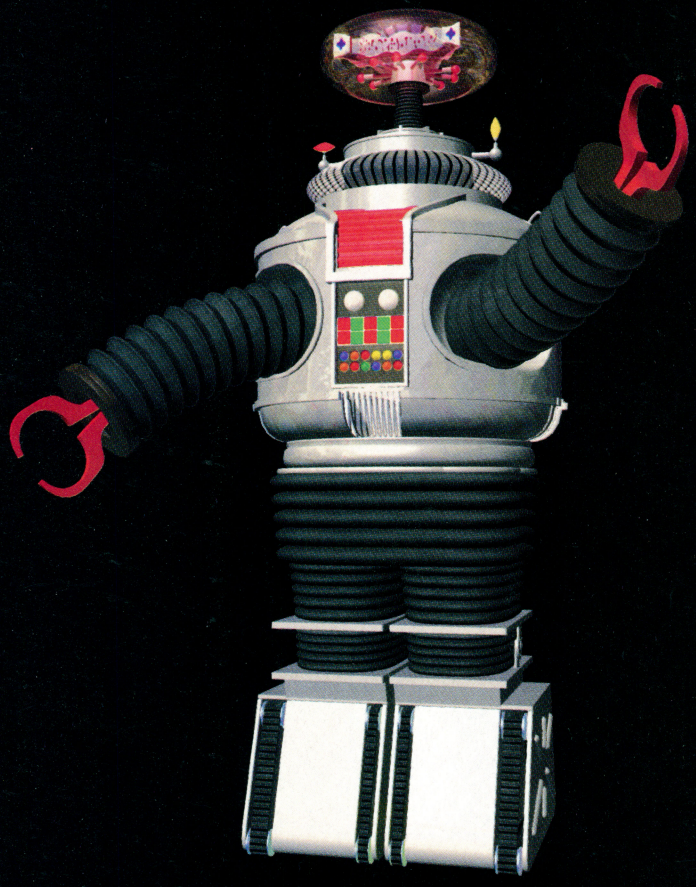
Flush with success in the educational and consumer markets, Apple was like a sweaty, drunken fiduciary swaggering down Tropicana Boulevard, betting Baby's new shoes on elaborate server strategies, impossibly expensive workstations, an online service, and high-minded experiments that were never released. They company got farther and farther from the consumer, but oddly, not much closer to the corporations. And Vegas' strategy was to get *less* sophisticated, more boorish, and deeper into Joe Public's wallet.

Sadly, Apple found that corporations are more attuned to bottom-line profits than letting individuals express themselves. Firms like Microsoft, Intel, and Compaq became the corporate Rat Pack, while Apple lost its billion-dollar bet and began resembling a pathetic old drunk at the $2 table. More fortunate players made jokes at Apple's expense, threw stuff at it behind its back and casually blew smoke into its sad, weathered face.

But Apple finally found out when to hold 'em, and when to fold 'em. After borrowing gas money for the trip home, Apple limped back to the drawing board and emerged with some amazing new products and the revelation that we individuals are still its most reliable customers. The money's rolling in, showing that the collective pockets of the great unwashed *can* compete with the Fortune 500's ledgers after all. And if the iMac, and the rumored cheap portable devices, are any indication, Apple's back in the game to stay — and holding a Royal Flush. MH

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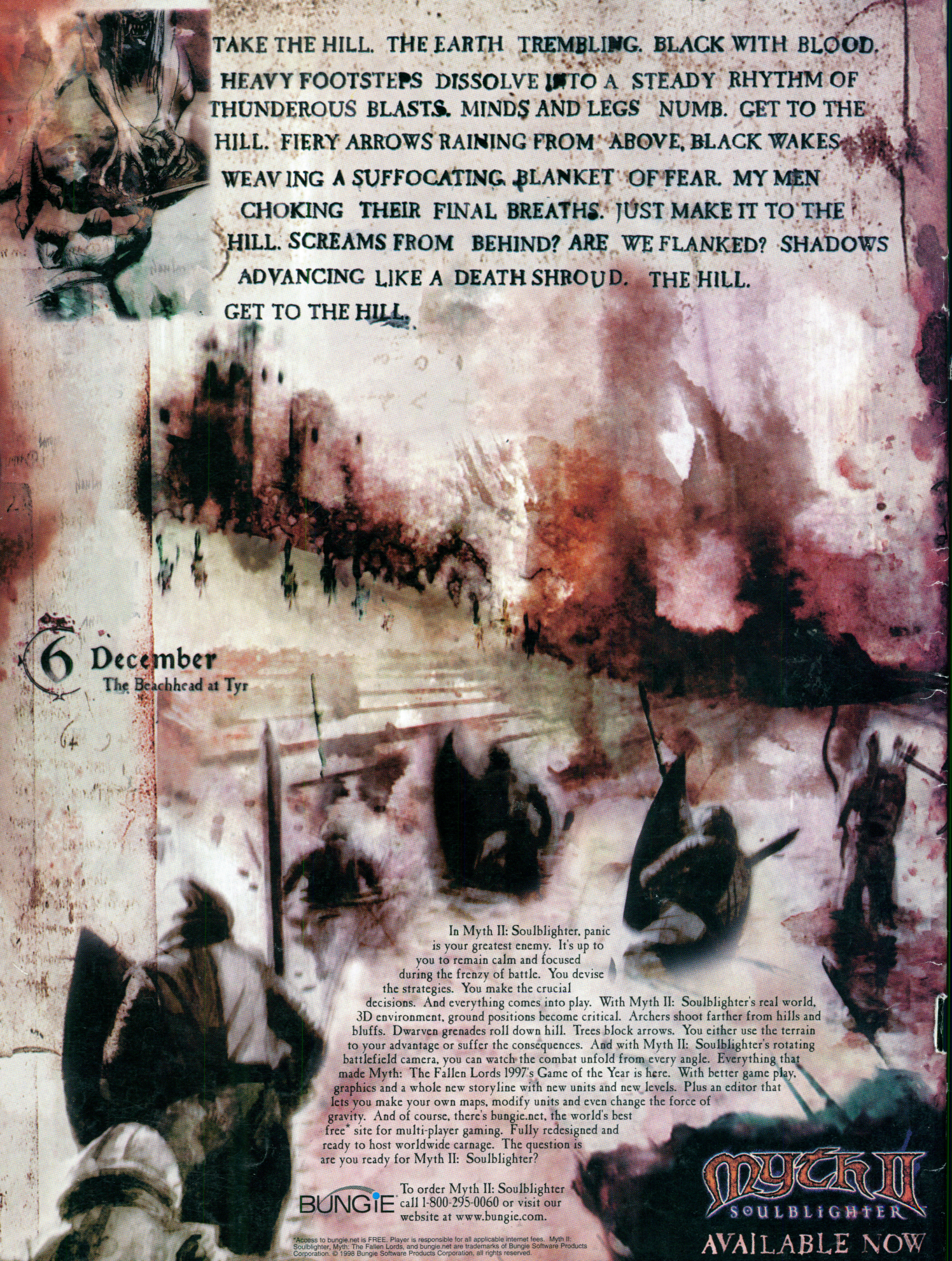
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